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ABSTRACT

Citations of published research reports and abstracts of master's and doctoral theses completed during 1980 are included in the areas of health, physical education, recreation, dance, and allied fields in two sections of this three-section volume. The bibliography section contains listings of 1031 articles published in 113 periodicals. In a separate section, abstracts of over 700 theses from 71 institutions offering graduate programs in health, physical education, recreation, dance, and allied fields are presented. A subject index to both sections is supplied, as well as lists of the periodicals reviewed and the participating institutions. (FG)

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COMPLETED RESEARCH

in Health, Physical Education, Recreation and Dance

including international sources

Volume 23 **1981 Edition**

covering research completed in 1980

Edited by ANNE L. ROTHSTEIN and JACK NELSON for the RESEARCH CONSORTIUM of the AMERICAN ALLIANCE FOR HEALTH, PHYSICAL EDUCATION, RECREATION, AND DANCE

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2. Communication—to facilitate public and professional understanding and appreciation of the importance and value of health, leisure, and movement-related activities as they contribute toward human well-being.
3. Research—to encourage and facilitate research which will enrich the depth and scope of health, leisure, and movement-related activities; and to disseminate the findings to the profession and other interested and concerned publics.
4. Standards and guidelines—to further the continuous development and evaluation of standards within the profession for personnel and programs in health, leisure, and movement-related activities.
5. Public affairs—to coordinate and administer a planned program of professional, public, and governmental relations that will improve education in areas of health, leisure, and movement-related activities.
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Bylaws, Article III

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1981-1982

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INTRODUCTION

This compilation lists research completed in the areas of health, physical education, recreation, dance, and allied areas during 1980. It is arranged in three parts.

1. **Index.** In this section, cross references are given for all the listing in Parts II and III. References are arranged under the subject headings, which are in alphabetical order. Instructions for using the index are given at the top of page 1.

II. **Bibliography.** This is a listing of published research, citing articles published in 113 of the 224 periodicals reviewed by the Committee for *Completed Research*. The periodicals reviewed are listed in pages 351 through 355.

III. **Theses Abstracts.** These are master's and doctor's theses from 71 institutions offering graduate programs in health, physical education, recreation, dance, and allied areas. Institutions reporting are listed on pages 356 through 360. Most references are accompanied by abstracts of the research and all are numbered in alphabetical order according to institution. Names of institutional representatives sending in theses abstracts are indicated in parentheses after the name of the institution; major professors are in parentheses after each reference.

Universities and colleges are encouraged to submit abstracts of theses completed at their institutions in the year 1981 for inclusion in the next issue of *Completed Research*. Material should be sent to Jack Nelson, Chairman of Theses Abstracts.

Anne L. Rothstein
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Committee on Completed Research

PART I—INDEX

This index enables the reader to refer to the items of completed research listed in Parts II and III. Research topics are arranged in alphabetical order. The reference numbers following each topic correspond to the listings of completed research dealing with that topic. The capital letter B indicates a reference to be found in the Bibliography (Part II); the capital letter T indicates a reference to be found in the Theses Abstracts (Part III).

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PART III—THESES ABSTRACTS

ABBREVIATIONS APPEARING IN THIS PUBLICATION:

AAHPERD = American Alliance for Health, Physical Education, Recreation and Dance (abbreviate all familiar organizations, e.g., AAU, NCAA, etc.)
acd = academic or academically
AD = athletic director
admin = administration
AE = absolute error
anal = analysis or analyses
ANCOVA = analysis of covariance
ANOVA = analysis of variance
assoc = association or associated
BB = basketball
bf = body fat
BP = blood pressure
BTPS = body temperature pressure saturated
bw = body weight
C = centigrade
CA = chronological age
CE = constant error
chem = chemical
CO = county
CO_2 = carbon dioxide
coll = college or colleges
curr = curriculum
DBP = diastolic blood pressure
° = degree
DEPT = department
dev = develop or developmental
diff = difference, differences, differentiate or difficult
educ = education
EKG = electrocardiogram
ELE = elementary
EMG = electromyogram
EMR = educable mentally retarded
exp = experiment, experimental or experience
F = Fahrenheit, F ratio, female or females
fed = federal
FEV_1 = forced expiratory volume
fit = fitness
gm = gram
govt = government
gp = group

GPA = grade point average
gr = group
grad = graduate
HC = handicapped
HE = health education, health
HR = heart rate
ht = height
insig = insignificance or insignificant
IQ = intelligence quotient
JC = junior college
JHS = junior high school(s)
JV = junior varsity
kg = kilogram
kg/m = kilogram per meter
kpm/min = kilopondmeter per minute
KR = knowledge of results
lit = literature
M = mean, male or males
MA = mental age
max = maximum or maximal
meas = measure
mf = motor fitness
mph = miles per hour
MR = mental retardation
MS = middle school
msec = millisecond(s)
MT = movement time
mvmt = movement
n = number (e.g., of Ss) all numbers in arabic form (e.g., 1 = one, 5 = five, 100 = one hundred)
N_2 = nitrogen
natl = national
neg = negative
no. = number (in text, e.g., the total no. of days. . .)
O_2 = oxygen
% = percent
P = probability ($p < .05$ = significance greater than .05 level; $p > .01$ = nonsignificance at the .01 level)
PE = physical education
PH = public health
PR = pulse rate
prog = program
psi = pounds per square inch
pt = point

PWC_{170} = physical work capacity, PWC (level of HR unspecified)
Q = cardiac output
r = correlation
REC = recreation
rep = repetition or repetitions
RPE = rate of perceived exertion
rpm = revolutions/min
RT = reaction time
RV = residual lung volume
S = subject, S's = subject's (possessive); Ss = subjects
SBP = systolic blood pressure
SD = standard deviation
SHS = senior high school(s)
sig = significant or significance
sq = square
st = state
stdnt = student
STPD = standard temperature pressure dry
SV = stroke volume
t = t-ratio
tchr = teacher
temp = temperature
TMR = trainable mentally retarded
TRT = total response time (RT + MT)
univ = university or universities
US = United States
USSR = Union of Soviet Socialist Republics
VE = variable error
V_E = expired ventilation
VO_2 = oxygen uptake
vol = volume
V_T = tidal volume
wt = weight
x = times
X^2 = chi square
YMCA = Young Men's Christian Association
YMHA = Young Men's Hebrew Association
YWCA = Young Women's Christian Association

NOTE:

1. Abbreviate measurements (without periods) such as:
in = inch; sec = second; wk = week; hr = hour;

m = meter; ml = milliliter; mm = millimeter;
min = minute; mo = month; oz = ounce; yd = yard, etc.

2. Abbreviate all kinds of performance tests if possible (e.g., CPI = California Psychological Inventory; Cattell 16 PF = Cattell 16 Personality Factor Questionaire; MMPI = Minnesota Multiphasic Personality Inventory)

3. Use U. S. Postal Service abbreviations for states within text.

ABSTRACTS

APPALACHIAN STATE UNIVERSITY (Vaughn K. Christian)
BOONE, NORTH CAROLINA

1. ANGEL, G. A. The effects of various recovery patterns on a supramaximal performance among intercollegiate females. M. A. in Physical Education, 1980, 31 p. (V.K. Christian)

2. VICKERY, S. R. The effects of selected verbal motivational techniques on the physical performance of college females in relation to achievement motivation. M. A. in Physical Education, 1980 39 p. (V. K. Christian)

3. WESTON, H. E. A study to determine the viability of state and federal legislation on youth camp safety in North Carolina. M. A. in Physical Education, 1980, 93 p. (E. T. Turner)

4. WESTON, M. J. The effects of normal, decreased, masked and abnormal auditory cues on the performance of skilled and highly skilled racquetball players. M. A. in Physical Education, 1980, 41 p (E. T. Turner)

ARIZONA STATE UNIVERSITY (D. Richardson)
TEMPE, ARIZONA

5. HAAN, A. L. An anthropometrical and physiological study of outstanding female swimmers. M. S. in Physical Education, 1979, 51 p. (C. L. Wells)

This study examined and compared the physiological, flexibility, and anthropometric characteristics of 2 groups of national caliber female swimmers. One group consisted of 8 AAU swimmers (M = 14.6 years) and the other group consisted of 5 collegiate swimmers (M = 20.4 years). The diffs between the two groups were sig for every variable obtained with the exception of the flexibility measurements. The collegiate group was taller, heavier and possessed larger body dimensions than the AAU group. VO_2 was tested utilizing a tethered swimming apparatus. The mean VO_2 in ml/kg/min for each group demonstrated superior cardiovascular endurance (collegiate M = 49.5 ml/kg/min; AAU M = 56.4 ml/kg/min). When VO_2 was expressed in l/min, the collegiate swimmers exhibited larger values than the AAU swimmers (M = 3.29 l/min; M = 2.92 l/ min, respectively). To further examine the nature of the diffs between the 2 groups, a partial correlation was computed while controlling for age. When age was held constant , there were few sig diffs between the 2 groups. Thus, it appears that the major diffs between the 2 groups were attributable to physical maturation.

6. HASTAD, D. N. Summer alterations in youth fitness. Ed. L. in Physical Education, 1980, 102 p. (R. P. Pangrazi)
Several factors thought to influence habitual physical activity were identified and the association each had with the % change that occurred in fitness of children during the months of summer vacation was determined. Ss consisted of 1980 5th grade students enrolled in a regular vigorous PE program. A modified version of the AAHPERD health related fitness test was used to assess selected components associated with an individual's functional health. The % changes that resulted on each of the 4 fitness performance items were the criterion measures. Independent variables consisted of child's sex, length of time in a PE program, attitude toward physical activity, and amount of summertime physical activity. A t test for correlated groups was used to determine sig diff between presummer and postsummer M scores. To analyze the simultaneous association among independent variables on fitness criteria, MANOVA was performed on the data for all of the 4 dependent measures as represented by % change in fitness. Results indicated a sig decrease in performance on the measure of cardiorespiratory efficiency with no diff attributable to related factors. Children did exhibit an overall improvement in body composition with the boys displaying a greater % change than girls. No % change was evident on performance measures of flexibility and abdominal strength.

7. MUSHABAC, L. H. Renal function in marathon running. M. S. in Physical Education, 1979, 36 p. (C. L. Wells)
In an effort to assess the effect of running a marathon on renal function, 17 male marathoners (n=10 participants in the 1978 New York City Marathon and n=7 participants in the Fiesta Bowl Marathon) volunteered to donate blood and urine samples on a non-race control day and on repeated occasions on the race day. Blood and urine samples were collected in 3-4 hour intervals that began immediately after the finish of the race. Additionally, post race overnight urine was collected and a 24 hr post race blood sample was obtained. Food and fluid intake was allowed ad libitum. The main blood variables of interest were WBC differential, creatinine, urea and osmolality. Within the limitations of this study, the

observations point toward an impaired renal concentrating mechanism of at least a transient nature, possibly localized to the ADH mechanism.

8. PETERSEN, G. W. Curriculum, teacher behavior patterns and student performance in physical education. Ed.D. in Secondary Ed, 1980, 221 p. (B. Pangrazi)

The study analyzed patterns and associations between ELE PE curriculums, teacher behavior and selected traits of 2nd grade Ss. 3 diff school districts participated in the study. 1 testing period was conducted in the spring of 1979. Teacher behavior patterns in 2 districts were recorded on 8 randomly selected occasions over a 5 month period. The Dynamic ELE PE Curriculum had a greater variety of activities and was implemented more efficiently which resulted in more S practice time per lesson. Teachers in the Dynamic Curriculum exhibited indirect teaching practices. They allowed student input and student initiated behavior, restricted the environment less and encouraged, praised and accepted S performance. There was also time allowed for S creativity during lessons. Teachers in the Basic Movement and Games Curriculum exhibited direct teaching practices. They did not seek S input, limited S freedom and discouraged S initiative. They gave factual statements, expressed their own ideas or asked rhetorical questions. Very little praise or acceptance was exhibited. More time was spent by teachers on direction giving and lecture, and less time was spent by the Ss in activity. S performance indicated that motor development scores were sig ($p < .05$) in favor of the Ss in the Dynamic Curriculum, and these Ss also had more positive attitude scores ($p < .05$) toward activity. Physical fitness and obesity levels favored the Dynamic Curriculum Ss.

9. SMITH, R. E. Fluid replacement during long-distance running. M. S. in Physical Education, 1979, 43 p. (C. L. Wells)

The purpose of this study was to compare physiological and performance variables in response to running 13 miles on an outdoor course under 3 conditions of fluid replacement. The replacement solutions used were water, E.R.G.$_{T.M.}$ and a caffeine solution. Data were obtained from 4 males and 3 females with an average age of 35.8 yrs. 5 oz of the fluid replacement solution was given 1 hr prior to each trial. For the caffeine trial, 5 mg. of caffeine/kg of body wt was mixed with 5 oz of water for the pre-run drink. During the trial, the same ratio of caffeine per kg of body wt was mixed with 10 oz of water. The E.R.G.$_{T.M.}$ was mixed by adding 1 gal of water with the contents of a 6 oz package. During each trial 2-1/2 oz of replacement solution was ingested every 2-1/2 miles up to and including the 10th mile. Pre and post measurements were taken on body wt, HR, blood hematrocrit and rectal temp to determine the effect of the fluid replacement treatment on these variables. A Rating of Perceived Exertion (RPE) was given at the end of each trial to determine the Ss' perception of the difficulty of the run. ANOVA was used to compare diffs associated with each trial. No statistical sig diffs ($p > .05$) were found among the trials. The correlation obtained to determine the relationship between RPE and HR was not sig at the .05 level.

BRIGHAM YOUNG UNIVERSITY (D. Shaw)
PROVO, UTAH

10. CARR, L. *Changes in leg strength and muscle fiber hypertrophy following isokinetic strength training.* Ph.D. in Physical Education, 1980, 112 p. (A. G. Fisher)

This study compared fast and slow speed isokinetic training on strength, endurance, and muscle fiber composition. 10 Ss trained 1 leg using slow contraction (48°/sec) and the other using fast contraction (192°/sec) 3 days/wk for 9 wks. Dynamic strength of the leg extensor muscles was measured at 8 velocities ranging from 12°/sec to 264°/sec, with isometric strength determined at 72° from full extension. A 2-min endurance test was given before and after the training period at both the slow and fast training speeds. Both legs showed sig increases in strength at all speeds tested, with the slow leg showing greater improvements at 48°/sec and 156°/sec. Endurance and time to peak torque changes were similar in both legs with the fast leg showing a tendency for greater improvements. Muscle fiber composition was not sig altered by either training program. It was concluded that strength and muscular endurance gains in untrained individuals are more related to total work than training velocity.

11. CHAMBERS, B. *The effects of dance on selected physiological variables.* Ed.D in Physical Education, 1980, 100 p. (D. Shaw)

62 women were randomly chosen from sections of beginning modern dance, ballet, and jazz to participate in pre and post tests of 4 parameters. The 12 wk treatment was

attendance in their respective dance class 2 days/wk,40-45 min per session. A control group also participated in pre and post tests; they were women selected from a HE class and had virtually no physical activity for the treatment period. The gain scores between pre and post tests were sig for all parameters tested. % body fat was the most sig at .001 level. Trunk flexibility was at .001 level. Vertical jump was at the .001 level, and cardiovascular changes were sig at the .053 level. The data indicated that the beginning level dance class can contribute significantly toward specific fitness parameters. A second goal of the study was to compare fitness components of advanced women dancers and varsity women athletes. No sig diff was found for the following parameters; max VO_2, % body fat, hamstring flexibility, shoulder flexibility, quadriceps strength, hamstring strength, hip flexor strength, hip extensor strength, abdominal strength and back hyperextensor strength.

12. CUNNINGHAM, B. Analysis of selected men's intercollegiate athletic programs. Ed.D in Physical Education, 1979, 130 p. (E. S. Roundy)

The purpose of this study was to analyze and compare the men's athletic programs of the members of the Far Western Conference with the Univ of CA at San Diego. An interview guide, selected units of the N.P. Neilson score card for evaluation of intercollegiate athletic programs, and won-loss records for the 1977, 78 and 79 academic years were used to evaluate the programs. Data obtained from the Neilson score card were compared by a t-test. The following conclusions were made: the Far Western Conference is a model intercollegiate athletic conference within its philosophical and financial limitations; the Univ of CA at San Diego's athletic program was comparable to the programs of the Far Western Conference in basic philosophy and administrative organization, but its commitment to winning (excellence) was a limited one; the athletic programs of the members of the Far Western Conference were consistent in purpose with the educational goals of the institutions.

13. DOOLEY, J. W. Human plasma lipid and lipoprotein levels: Responses to egg consumption and aerobic exercise. Ph.D in Physical Education, 1979, 222 p. (A. G. Fisher)

60 healthy adult males with normal plasma lipid levels were studied during 3 successive 60-day periods to determine the effects of consumption of 0, 2 and 4 eggs per day on Ss in

exercise and no exercise regimes. Exercise consisted of walking-jogging at 85% max HR for 30 min, 3 days per wk. Triglycerides decreased only slightly as a result of exercise, while extreme variability existed in total, HDL, and LDL cholesterol. Total cholesterol increased as a result of 4 eggs and exercise. No sig total cholesterol decreases were observed. HDL cholesterol increased as a result of 4 eggs in exercise as well as in no exercise Ss. An HDL cholesterol increase was also observed as a result of 2 eggs and exercise. For the 60-day period, 4 eggs and exercise resulted in sig higher LDL cholesterol when compared to 0 eggs and exercise, but not when compared to 2 eggs and exercise.

14. DOWDLE, M. A. A demographic analysis of the health care demands of Rich County compared to Wasatch County, Utah. M. S. in Health Science, 1980, 56 p. (D. Shaw)
The HE care needs in Rich and Wasatch counties were first compared and found to be very similar. Wasatch County has ample medical care available to its population and Rich County has none. The author had hypothesized that the HE care demands would be lower in Rich County because of lack of medical facilities. Both Rich and Wasatch counties were found to have HE care demands similar to the national norm for rural areas. It was also indicated that people are willing to travel the distance necessary to obtain the type of medical care they desire and do not always seek the closest medical care. Based on the data collected it was recommended that Rich County seek a resident physician because the demands are sufficient.

15. DUNN, S. E. Changes in aerobic capacity, strength and body composition with timed calisthenics. Ed.D in Physical Education, 1979, 114 p. (P. E. Allsen)
15 women and 13 men volunteered to participate in a 10-wk program of timed calisthenics. Average attendance was 5 days per wk, 40 min per session. Assessments of aerobic capacity, strength, and body composition were made at the beginning and conclusion of the study. Both exp men and women made similar improvements in all categories. Men did score significantly higher than women for measurements in aerobic capacity, 1.5 mile run time, grip strength, and vertical jump. Both men and women showed a remarkable increase in muscle endurance as measured by pull-ups and flexed-arm hang time respectively. Comparisions of initial and final tests showed sig gains

($p < .05$) by exp Ss in aerobic capacity and strength. No changes in body composition were detected. These data indicate that timed calisthenics is effective in increasing aerobic capacity and muscle strength and endurance but may not be the most effective means of altering body composition when following an ad libitum diet.

16. EDGINGTON, J. Rat ovarian cycle: Its relationship to liver glycogen content and exercise endurance. M. S. in Physical Education, 1980, 49 p. (R. K. Conlee)

Control animals were sacrificed in either the estrus or nonestrus stage of the cycle, and liver glycogen as well as blood glucose values were analyzed. Exercise animals were swum to exhaustion and similar analyses were conducted. Resting estrus animals showed sig greater variation in liver glycogen values (range 96.1 to 337.2 μmole/g) than did nonestrus animals (range 241.1 to 308.9 μmoles/g). Likewise, the range for swim times was also different (estrus 116 to 364 min; nonestrus 237 to 342 min). These data directly establish that the estrus phase of the ovarian cycle has an influence on liver glycogen storage and exercise endurance time. Blood glucose values in the post-exercising animals indicated that fatigue was a result of hypoglycemia secondary to hepatic glycogen depletion. We conclude that glycogen fluctuation in response to the ovarian cycle has great importance in designing glycogen-exercise studies involving female rats as the exp model.

17. FLEMING, L. K. Identifying performance errors and teaching cues in tennis: The effectiveness of instructional program. M. S. in Physical Education, 1980, 113 p. (J. M. Harrison)

The purpose of this study was to compare learning in identifying tennis errors between 3 exp groups using a videotape program of instruction and a control group. Learning was defined as gain scores between the pre and post test. The groups were composed of PE majors from BYU who had had some form of instruction in tennis. ANCOVA showed that the use of a videotape unit is effective in learning to identify performance errors and teaching cues in tennis, especially the serve. The results also showed that a videotape using experts to demonstrate performance errors in tennis is more effective than a videotape of beginners performing the errors.

18. HESSON, J. Response of selected somatotypes to strength training. Ed.D in Physical Education, 1980, 98 p. (P. E. Allsen)

This study was conducted to compare selected somatotypes on strength, body dimension and body composition as a result of a strength training program. Potential Ss were somatotyped using the Heath-Carter method of anthropometric somatotyping and the 26 Ss who were qualified to participate in this study were in 1 of the 3 following groups: endomophs (n = 5); mesomorphs (n = 13); ectomorphs (n = 8). All Ss participated in the same strength training program for 10 wks. There was not a sig diff in the rate of gain in strength, body dimensions or body composition when the groups were compared. It was concluded that changes in strength, body dimensions and body composition are the same for all body types when engaging in the same strength development program.

19. JOHNSON, R. M. The ball-strike count and its effect on hitter efficiency. M. A. in Recreation Management, 1980, 44 p. (J. Naylor)

The purpose of this study was to determine if there was a sig relationship in hitter efficiency (batting average) depending on the type of ball-strike count on the hitter. The data indicated a sig diff in batting averages for several of the ball-strike categories. The highest batting averages were on the first pitch and hitter-ahead categories. The least productive category was the hitter-behind group. This suggests that the proper mental approach to hitting is an important component of the mechanics of successful hitting.

20. KAMIENESKI, C. D. The effectiveness of an instructional unit in the analysis and correction of selected basketball skills. Ed.D in Physical Education, 1980, 110 p. (J. M. Harrison)

2 exp groups and a control group were compared in the identification of movement errors for selected basketball skills. All groups were given pre and post criterion tests. The groups were composed of PE majors of Southern Missionary College. Between tests the exp groups viewed the instructional unit for skill error analysis using video taped replay film developed for the study. Evaluation techniques included ANOVA. It was found that the video unit was effective in teaching error analysis; PE majors who did not view the unit could not make sig scores on criterion tests; there was no sig diff between groups in learning to analyze the dribble;

there is no sig diff between mental and written practice in learning to perceive simple movement errors; and practiced learning is essential for competence in error analysis.

21. LANGPAP, W. The application of the community education philosophy to the K-12 component of the education system. M. A. in Recreation Management, 1980, 98 p. (B. K. Olsen)
The purpose of this study was to determine if the K-12 component of education could be enhanced by the application of the community education philosophy. The application was made by community educators who worked during the regular school hours in 3 school districts in the state of UT. Teachers and administrators from the schools selected for the project were surveyed at the conclusion of the 1979-80 school year. Findings indicated that where the community educators worked directly with teachers and principals, the project was viewed to have enhanced K-12 education. There was observable diff, however, between what principals and teachers thought community education should or could provide the K-12 program and their evaluation of what the project actually accomplished during the year. The districts, representing urban, semirural and rural, showed no sig diff between respondents regarding success or lack of success of the project that could be attributed to district size.

22. LARSON, S. L. Intercollegiate swimmers: An assessment and comparison of the relationship of selected motivational influences. M. S. in Physical Education, 1979, 174 p. (L. T. Hall)
A total of 178 swimmers from 16 intercollegiate swimming teams at 11 universities completed a questionnaire involving 3 categories of motivation: motivational reasons for swimming, motivation in swimming workouts, and motivation in swimming meets. The responses within each of these categories were assessed and compared for the following subgroups of swimmers: males and females, freshmen, sophomores, juniors, and seniors, elite and non-elite and those individuals who began swimming competitively at some time before SHS as compared to those who began during or after SHS. It was concluded that there were sig diff for the ways in which the selected subgroups were motivated. The major diff were found between the males and females, with only minor diff existing between the other selected subgroups.

23. MIELKE, D. R. The prediction of terminal performance in beginning tennis. M. S. in Physical Education, 1979, 65 p. (L. S. Hall)

The purpose of this study was to assess and predict terminal skill performance among students in a beginning tennis class. A pre-test and a post-test were used as the factors to measure the predictability. The results showed that using reliable and valid tests, prediction of terminal skill performance was possible in a beginning tennis class.

24. MULDER, R. T. Selected physiological changes: The fitness for life program. Ed. D. in Physical Education, 1979, 117 p. (P. E. Allsen)

This study was conducted to determine physiological changes in students participating in a non-supervised PE program, Fitness for Life, over an 8-wk summer term. Ss were selected from 6 Fitness for Life classes offered Summer Term 1979 at BYU. 59 Ss were included in 1 of 4 groups as follows: men exp (n = 15); men control (n = 14); women exp (n = 14); women control (n = 16). Exp Ss contracted for 6 wks of physical activity designed to bring about cardiovascular endurance changes. There was a sig reduction in the sum of skinfold measures due to treatment. There was sig diff between treatment, between sexes, and interaction between treatment and sex for both max VO_2 and 1.5 mile run time. It was concluded that a non-supervised PE program of an individualized nature can bring about cardiovascular endurance changes during an 8-wk term.

25. MUNTZING, E. P. The effect of two training loads on specified fitness parameters in sedentary adult women, ages 20-30, 31-40 and over 40. Ed. D. in Physical Education, 1980, 133 p. (E. Roundy)

29 sedentary women participated in the study; 20-30 yrs, (n = 9); 31-40 yrs, (n = 10); and over 41 yrs, (n = 10). 2 training programs were used. Each program involved walking and/or jogging 4 days a wk for 12 wks. Half of the Ss in each age group were randomly assigned to the 300 Kcal per session program, and the other half was assigned to the 150 Kcal per session program. The dependent variables were: body wt, % body fat, Max VO_2 1.5 mile run, cholesterol, triglyceride, HDL, LDL, glucose and RHR. It was found that the adaptation

of fitness variables to endurance exercise is independent of age in sedentary women, and exercise involving expenditure of 150 Kcal and 300 Kcal produce similar effects on fitness parameters in sedentary women.

26. NELSON, S. A. A statistical analysis of the 1979 AIAW and the 1980 NCAA volleyball championships. M. S. in Physical Education, 1980, 48 p. (C. McGown)

The final 4 teams in the AIAW and NCAA Volleyball Championships were selected for study. A valid statistical system was developed for evaluating serve-serve reception and spike-spike defense, and skill norms were established for the women's and men's championships. In the men's championships, there was a sig relationship between serving and passing and success.

27. NWOCHA, M. O. A comparison study to determine the effects of a death and dying course on death attitudes. M. S. in Health Sciences, 1980, 45 p. (K. J. Karren)

This study was done to determine if a course in death and dying had any effects on the death attitudes of the HE science students at BYU who took the course in the winter semester of 1980. 17 self-selected HE science students who elected to take a course in death and dying formed the exp group. The control group was comprised of 17 HE science students selected by proportional stratified random sampling. Both groups were pretested and posttested with the same instrument. Findings suggested that the death and dying course influenced the exp group's attitudes toward death.

28. OLSON, M. The construction and evaluation of a coaching education curriculum. Ed. D. in Physical Education, 1980, 147 p. (E. S. Roundy)

The purpose of this study was to construct a coaching education curriculum to train prospective coaches and to evaluate the coaching education curriculums at Division IA universities and certification requirements in the various sections of the US (East, Central, West and South). A survey developed for the study was administered and the results were tested by X^2. There was no sig diff in the % of colleges or universities that offer a coaching education curriculum in the 4 sections of the US. There was no sig diff in the % of states that offer certification in the Division IA universities and states in the 4 sections of the US. The proposed curriculum could aid universities in training prospective coaches if they do not have a program or could be used to update existing coaching education programs now being used.

29. PEDERSON, N. L. An electromyographic-electrogometric comparison of free weights, universal apparatus, nautilus apparatus, using selected muscles of the upper and lower extremities. Ed. D. in Physical Education, 1979, 156 p. (C. B. Call)

Through electromyography, the MAP areas of the prime mover muscles were analyzed during 7 exercises using free weights, Universal, and Nautilus apparatus. A subproblem of this study was to investigate the linearity of tension during each exercise. With the aid of electrogoniometry, action potentials were related to joint position throughout the range of the exercise. Ss were 6 male students skilled in the techniques of wt-training. It was concluded that greater ($p < .01$) MAP areas were elicited by Nautilus apparatus as compared to free weight or Universal apparatus. The larger MAP area was credited to the maintenance of a more productive angle of resistance through a greater portion of the movement. The free weight and Universal apparatus MAP areas were not sig different ($p > .05$). It was concluded that the non-linearity of the MAP areas for all apparatus was caused by the inconsistency of the apparatus to maintain a constant angle of resistance.

30. PETERSON, W. A. Determining the incidence of hypoglycemia: A study of results obtained at Utah Valley Hospital laboratory and Pathology Associates laboratory. M. S. in Health Science, 1980, 36 p. (B. Q. Hafen)

It was determined that 25% of the patients who underwent a 6-hr glucose tolerance had a glucose level lower than the established normal range, while only about 10% had a glucose value below the suggested 50 mg% abnormal level. It was also determined that MD practitioners did not differ in their patients' occurrence of low values from that of chiropractors. Generally, low values from 6-hr glucose tolerance tests occurred more often than high values; however, using the 50 mg% level of abnormality, no diff was found in the rate of occurrence. M values were found to be within accepted normal ranges.

31. RAMIREZ, E. H. Creative movement: An analysis of methods used by the experts. Ed.D. in Physical Education, 1980, 183 p. (B. Jarman)

The purpose of this study was 2-fold: to analyze opinions of experts and identify certain techniques and methods used by creative movement specialists in developing successful creative movement programs, and to create a unit of instruction from the results of the study as an aid to persons in and out of PE in teaching creative movement skills. The opinions and identification of techniques and methods were obtained by collecting information from recognized authorities in creative movement in US. Based upon the findings of a survey, there is no uniform manner or method used by the specialists. While their philosophies and basic foundations are similar, each individual specialist has his/her own unique focus in planning a creative movement program. On the basis of the questionnaire results and materials sent by the participants, a unit of instruction was developed.

32. RAMIREZ, M. D. Self-perception of personality among selected female athletes. Ed. D. in Physical Education, 1980, 96 p. (B. Jarman)

The purpose of this study was to assess and compare self-perception as measured by the Bem-Sex-Role Inventory (BSRI) among selected adult female population from the following: competitive body builders, competitive power lifters, competitive throwers in track and field, and a control group of non-athletes. The hypotheses were: there would be no diff in self-perception, as measured by the BSRI, among the 3 groups of athletes--body builders, power lifters and throwers. The following conclusions were drawn: non-athletes and body builders perceived themselves as undifferentiated; power lifters and throwers perceived themselves as androgynous; athletes tend to be more androgynous than non-athletes; and the largest diff among the groups was in the masculinity area.

33. VOGAN, D. R. The caloric expenditure of jogging in water. M. S. in Physical Education, 1980, 48 p. (E. Durrant)

The problem was to determine the caloric expenditure of jogging in water of 3 selected intensity levels. Ss were tested at each of the 3 intensities: 20 ft/10 sec, 20 ft/9 sec, and 20 ft/8 sec. 2 pilot studies were conducted: one to substantiate the validity of 0^2 consumption while jogging in water compared to walking or jogging on dry land (r = .999); the second verified the reliability of counting the right carotid pulse as compared to a cardiotachometer reading (r = .995).

Results showed that as the speed of jogging in water increased, caloric expenditure also increased. Knowing calories per lb per min of one intensity level and knowing an individual's body wt, calories expended per min can be computed. Exercise prescription can be written for individuals having injuries in wt-bearing segments who desire a cardiovascular activity.

34. WILLIAMS, A. The effects of biological rhythms upon female high school basketball players. M. S. in Physical Education, 1980, 80 p. (E. Durrant)
Selected basketball statistics (points scored, personal fouls, rebounds, turn-overs, and steals) recorded during the 1977-78 basketball season at Springville HS, Springville, UT were used to determine these effects. It was found that no relationship existed between biological rhythms and the performance of the SHS basketball players.

CALIFORNIA STATE UNIVERSITY (J. A. Carr)
HAYWARD, CA

35. COTRONEO, Phillip W. Biomechanical and aerodynamical aspects of the backhand and sidearm frisbee-disc throws for distance. M. S. in Physical Education, 1980, 116 p. (J. A. Carr)
24 adult male Ss, well-skilled in both backhand (BH) and sidearm (SA) throwing patterns, executed 2 throws of each pattern for distance. Throws were filmed by 2 synchronized 16 mm cameras at 64 fps. 119-gm World Class Frisbee-discs were used. Hypothesis 1 investigated diff in initial velocities, distance and 8 other factors. ANOVA showed sig diff in distances achieved but not in initial velocities. 20 out of 24 Ss achieved greater distances with BH throw. Considerable "wobble" was observed on SA throws (17 SA Ss had wobble vrs, 1 BH S) which contributed to lesser SA distances. For 22 right-handed Ss, wind contributed to greater BH distances and deterred SA distances. Hypothesis 2 investigated diff in the internal biomechanics of the 2 patterns of 2 expert Ss (one BH and one SA expert). Each S executed 3 throws of his preferred pattern. 3 high speed 16 mm cameras were used (one at 150 fps). Segment tracings of the throw with the greatest initial velocity were subjected to further analysis. It was found that the wrist contributed 80.8% to the SA and only 28.4% for BH. Contributions for the BH were fairly equally distributed among wrist, shoulder, radio-ulnar

and hips. SA joint actions included wrist flexion, radio-ulnar supination, and shoulder and hip movements toward the midline of the body. BH Jt actions were the opposite to each of the above. R showed initial velocity at release to be the factor most highly related to distance for each throw (r = .647 BH) (r = .673 SA), and for both throws combined (r = .644).

CALIFORNIA STATE UNIVERSITY (D. Deatherage)
LONG BEACH, CA

36. ALGRA, Bruce. The effects of four weight training programs on strength and running speed. M. A. in Physical Education, 1980. (Sinclair)

37. BUCK, Robert A. An analysis of the theory and practice of volleyball mastery for youth sportspeople in the Union of Soviet Socialist Republics. M. A. in Physical Education, 1980. (Rose)

38. COLDWELL, Barbara Elizabeth. An instructional handbook on western riding. M. A. in Physical Education, 1980. (Wurzer)

39. DELZEIT, Linda. The effects of participation in college swimming classes upon the vital capacity. M. A. in Physical Education, 1980. (Lyon)

40. ERBECK, Pamela. A survey of high school students' attitudes toward the athletic and the non-athletic female . M. A. in Physical Education, 1980. (Miller)

41. FISTER, Ronald J. The effect of an adapted physical education program on the gross motor ability of mentally retarded children. M. A. in Physical Education, 1980. (Sinclair)

42. FUSS, Maureen M. Development of a senior high school physical education curriculum according to wholistic learning. M. A. in Physical Education, 1980. (Morgan)

43. HOPPER, Janice Mae. A survey of high school students' attitudes toward physical education's changing needs. M. A. in Physical Education, 1980. (Sinclair)

44. JOHNSON, Gay. Comparison of personality traits between highly skilled female basketball, softball and volley-performers at the high school level. M. A. in Physical Education, 1980. (Clifton)

45. KLEIN, Cheryl. The effects of a physical fitness class on the fitness and knowledge levels of ninth grade females. M. A. in Physical Education, 1980. (Lyons)

46. MATUSAK, David. A philosophical study of ethics in high school athletics. M. A. in Physical Education, 1980. (Morgan)

47. MOTILAL, Nora. A curriculum in physical education for the profoundly mentally retarded. M. A. in Physical Education, 1980. (Sinclair)

48. PIVA, Marc A. The effect of progressive power training on increasing swimming speed. M. A. in Physical Eudcation, 1980. (Sinclair)

49. SWEET, John. A study of accidents and injuries in secondary physical education. M. A. in Physical Education, 1980. (Clifton)

50. WARNING, Kristine. A political history of the modern summer Olympic games. M. A. in Physical Education, 1980. (D. Toohey)

CALIFORNIA STATE UNIVERSITY (W. J. Vincent)
NORTHRIDGE, CA

51. BARNES, Carolyn. Effects of a dance program on motor ability of T.M.R.s. M. A. in Physical Education, 1978. 81 p. (William J. Vincent)

52. BLACK, John Gregory. A comparative analysis of equivalent submaximal treadmill and bicycle ergometer exercise M. A. in Physical Education, 1980, 84 p. (George Q. Rich)

53. BUDESELICH, Frank George. The cardiopulmonary training effect from 10 minutes of rope-skipping vs. 30 minutes of jogging. M. A. in Physical Education, 1980, 99 p. (George Q. Rich)

54. CARR, Nancy. Physiological modifications among female gymasts. M. A. in Physical Education, 1977, 109 p. *(George J. Holland)*

55. CASE, Philip. The evaluation of an electrocutaneous sensory feedback system for the below elbow amputee. M. A. in Physical Education, 1978, 56 p. (Darrel W. Guthrie)

56. CONTARSY, Steven. Physiological comparison of high performance runners and swimmers. M. A. in Physical Education, 1979, 83 p. (George Q. Rich)

57. DRAKE, Stephanie. The effects of gymnastics participation on spatial orientation ability. M. A. in Physical Education, 1979, 72 p. (William J. Vincent)

58. EBERHART, Jean. Validity of the Astrand-Rhyming nomogram for moderately active adult females. M. A. in Physical Education, 1977, 82 p. (George Q. Rich)

59. GREEN, Patricia. The effects of positive value statements on self concept in a beginning university swimming class. M. A. in Physical Education, 1977, 72 p. (Donald R. Bethe)

60. HOFFMAN, Diana M. The effects of visual imagery ability combined with visual mental practice techniques upon motor performance. M. A. in Physical Education, 1979, 46 p. (Frances Stutts)

61. HONJIO, Gary. The effect of slow versus normal motion films, in conjunction with mental practice upon the speed of learning a gross motor skill. M. A. in Physical Education, 1978, 61 p. (William J. Vincent)

62. HURST, Edwin. An investigation into the relationship between collegiate sabre fencing lessons and collegiate sabre fencing bouts. M. A. in Physical Education, 1979, 41 p. (Darrel W. Guthrie)

63. KOVACH, Len. The effects of skill-simulated isometric training on the velocity of a soccer ball kicked with the inside of the foot. M. A. in Physical Education, 1977, 59 p. (Darrel W. Guthrie)

64. LOY, Steven. The effect of the game of golf on cardiopulmonary fitness of middle-aged men. M. A. in Physical Education, 1979, 81 p. (George Q. Rich)

65. MASTERS, Ronald. Drug usage by athletes related to performance. M. A. in Physical Education, 1978, 72 p. (Samuel D. Britten)

66. MUNROE, Dave. The effectiveness of the klic-klac instructional aid in learning the tennis backhand drive. M. A. in Physical Education, 1979, 56 p. (Nicolas Breit)

67. NISMAN, Ronda Sue. The effect of diet and exercise on fuel utilization. M. A. in Physical Education, 1980, 85 p. (George Q. Rich)

68. NOONAN, Dan. A factor analysis of perceptual motor skills of elementary school children. M. A. in Physical Education, 1977, 69 p. (William J. Vincent)

69. O'CONNOR, Jim. The relationship among resultant achievement motivation, physical ability and success in college football. M. A. in Physical Education, 1979, 75 p. (Donald R. Bethe)

70. PARMENTER, Carol. Equine education programs and related studies as found in colleges and universities in the United States. M. A. in Physical Education, 1978, 107 p. (Merrill D. Hardy)

71. PELLEG, Roni. Desirable personal and professional qualities of high school physical education department heads. M. A. in Physical Education, 1980, 63 p. (Merrill D. Hardy)

72. TANAKA, Kiyoji. Cardiorespiratory responses of cross-country runners while on a treadmill. M. A. in Physical Education, 1977, 142 p. (George Q. Rich)

73. TOWNSEND, Joy. Energy cost of upright exercise in a shock reduced environment. M. A. in Physical Education, 1979, 65 p. (George Q. Rich)

74. WRIGHT, Nathan. The effectiveness of the exer-genie as an instrument for the improvement of accuracy in kicking a soccer ball. M. A. in Physical Education, 1979, 69 p. (Adran Adams)

CENTRAL MISSOURI STATE UNIVERSITY (M. Lyon)
WARRENSBURG, MO

75. HALLARAN, Cynthia Ann. Social and competitive self-concepts of women varsity athletes. M. S. in Physical Education, 1981, 89 p. (M. E. Lyon)

College women varsity athletes ($N = 73$) completed the ACL 2 times, once for a competitive situation and once for a social situation. Multiple regression analysis and the Scheffé Test indicated that significant differences ($p. < .05$) existed on 22 of the scales.

76. REKER, Jo-Ann. The use of special events as a marketing tool in major league baseball. M. A. in Physical Education, 1980, 44 p. (B. J. Bailey)

Directors of marketing for the Chicago White Sox and the Kansas City Royals were interviewed concerning the special events that took place during the 1979 baseball season. Attendance records for the 2 clubs were examined in relation to the special events. Special events did not assure above-average attendance at games.

CHADRON STATE COLLEGE (Thomas P. Colgate)
CHADRON, NB

77. SWANBOM, Janet S. An investigation of knowledge in the volunteer coaching area of physical education majors in Nebraska state supported colleges and universities. M. A. in Education, 1980, 69 p. (T. P. Colgate)

The Volunteer Coaches Test was administered to 243 entering freshmen PE majors and 161 graduating senior PE majors during the 1979-1980 school year. Test means were computed for all Freshmen, Freshman Women, Freshman Men, All Seniors, Senior Women, and Senior Men. The scores were analyzed by use of the t-test for independent samples. Analysis of the data showed a sig diff ($p < .05$) between all freshmen and all seniors and between freshman women and senior women. In both comparisons the seniors scored higher. Item response %

indicated a lack of knowledge by PE majors in the area of psychosocial development of children.

CHICAGO STATE UNIVERSITY (C. E. Gronbech)
CHICAGO, IL

78. ADAMS, W. L. Dietary adjustment of systemic pH and endurance in trained college varsity swimmers. M. S. in Education, 1980, 58 p. (C. E. Gronbech)

10 Ss, CSU Men's Intercollegiate Swimming Team, were tested 3X for endurance, a 10 min continuous swim in a 25 yd pool. Prior to testing, urine specimens were taken, analyzed for systemic pH and recorded. At the end of the 10 min swim Ss' positions were marked and the total no. of yds was computed and recorded. The 1st wk the exp (alkaline-ash) and the control (acid-ash) diets were randomly assigned to an equal no. of Ss. The 2nd wk the treatments were reversed and in the 3rd wk all returned to their normal diets. Ss were instructed to follow the diet Mon-Th and not to eat anything 4 hrs prior to testing. ANOVA with repeated measures on each was used. It was concluded that natural diet brought about a sig higher systemic ph value than acid-ash; natural diets were successful in adjusting systemic ph and brought about improved performance; and alkaline-ash brought about a sig better performance than the normal diet.

79. BJORK, F. The effects of preliminary, specific, related, active warm-up; no preliminary warm-up; and no preliminary warm-up or knowledge of results on the performance of a self initiated sports skill M. S. in Education, 1980, 45 p. (C. E. Gronbech)

The exp tasks were the performance of the basketball foul shot, volleyball serve and tennis serve. Ss (SHS boys) were tested in their respective sport under all 3 conditions and were instructed on the procedure and the condition prior to testing. Scores were recorded for each attempt, test and treatment. A 3x3 factorial design with repeated measure on 1 factor was computed to determine if sig diff existed within or between the groups at any of the treatment levels. Tukey's HSD procedure was utilized to determine the location of any sig diff indicated by the F ($p. < .05$). Diff were found to exist among all main effects. Basketball, volleyball and tennis scores were confounded due to the inconsistency of scoring procedures. Detriment in performance was sig when there was no KR during testing. There was no sig diff between performance following warm-up and performance without warm-up. The simple effects reinforced the sig in the main treatment effects within all groups.

80. CAMPEA, L. A. Elementary, secondary, and collegiate compliance to Title IX in the Chicago Metropolitan area. M. S. in Education, 1980, 78 p. (C. E. Gronbech)
Ss chosen at random were 20 collegiate, 20 SHS, and 20 ELE schools during the 1980-81 school yr (total N = 60). Surveys were sent to the PE teachers on the ELE level and the director of the PE Dept. on the SHS and collegiate level. The questionnaire was previously used by the HEW from a publication entitled, Complying With Title IX, Implementing Institutional Self-Evaluation. A 3x3 ANOVA with repeated measures on the 2nd factor was computed to determine if sig diff existed. Tukey's HSD post hoc located sig diff indicated by F ($p < .05$). The following conclusions seemed justified: PE programs were comparable on all levels in providing opportunities for both sexes in curriculum, facilities, analyses of courses, and scheduling of classes; and intramural and interscholastic programs on all levels were more male oriented in terms of administration of programs, facilities and equipment, publicity, coaching, budgets, support groups and plans concerning current and future provisions in operating programs.

81. FLANAGAN, M. M. The effects of a sexually integrated versus sexually segregated physical education classes in the learning of offensive basketball skills. M. A. in Education, 1980, 92 p. (C. E. Gronbech)
SHS students were divided into 3 treatment groups: sexually segregated (male), sexually segregated (female) and sexually integrated. Each S was given a pre-test prior to the initiation of instruction. The pre and post tests consisted of the: LSU Basketball Passing Test, Harrison Basketball Ability Test (dribbling), and AAHPERD Basketball Skill Test (shooting). An instructional period of 4 wks was given in which the Ss were taught the offensive basketball skills of passing, dribbling and shooting. Male and females Ss in the sexually segregated PE classes did not show greater or lesser learning of offensive basketball skills than male and female Ss participating in a coeducational PE class.

82. GREENSLEY, R. J. Physical performance, sex and race as factors in the attitude of intermediate school children

toward physical activity. M. S. in Education, 1980, 73 p. (C. E. Gronbech)

The physical performance level of each S was compared with the results of an attitude inventory to determine the degree of relationship between physical performance level and attitude formation. Performance was measured by the AAHPERD Youth Fitness Test Battery and past achievement in PE by an overall grade from the previous yr. relative to participation, cooperation and various sport and skill level testing. Each S's scores from both areas were ranked and a sum of the 2 scores was assigned to each group. 5 levels were established with equal nos. of Ss assigned to each group. Ss were administered a self report inventory adapted from Kenyon's ATPA. Conclusions were drawn from 8 (5x2x2) ANOVAs. Tukey's HSD was utilized post hoc to locate sig indicated by the F ($p<$ .05). The results of the analysis indicated no sig diff for physical activity in any of the 8 areas assessed. Sig diff were indicated for sex in the areas of social, training, beauty and competition. Sig diff were indicated for race in the areas of participation in physical activity for social and thrill aspects. No sig diff were found for either race or sex in the areas of participation in physical activity for health, fun or release aspects.

83. HALLBERG, L. J. T. Exercise and psychological well-being of adult females. M. S. in Education, 1980, 59 p. (C. E. Gronbech)

Ss were adult volunteers and members of a 10 wk body conditioning or aerobic dancing course (N = 171). Ss were classified by self-assessment as in the pre menopausal, menopausal, or post menopausal stage. Each was asked to complete a pre and post Likert scale test after a 10 wk test exercise program. 3x2 ANOVA with repeated measures on the pre and post treatment test were computed to determine if sig diff existed between or within the groups as a result of the program. A 1-way ANOVA was computed on the data collected from the menopausal group on self concern with specific symptoms of menopause. Tukey's HSD was used to locate any sig diff in the main, simple or interaction effects ($p. < .05$). Results indicated a sig age-related diff in concern with self. The post menopausal women proved sig less concerned than the pre menopausal women. The 10 wk regimen of exercise had no effect on the psychological well being of adult females.

84. IVERSON, J. A. Aggression of black and white female athletes competing on two levels of organized sport. M. A. in Education, 1980, 53 p. (C. E. Gronbech)

36 athletes ages 18-31 volunteered as Ss. 18 (12 black and 6 white) competed on at least 1 team at the intercollegiate level and 18 (4 black and 14 white) participated in at least 1 team sport at the recreational level. Aggressive responses of the Ss in selecting pictures from the TAT test were scored according to the Aggression Social Severity Word Rating Scale. The score for frequency was a tally of the no. of aggressive words used in the S's response to the picture. The score for intensity was the sum of the severity rating (1-5) in responding to the whole test. ANOVA and the Tukey's HSD were used in analyzing the data. The results supported the findings of other studies investigating characteristics of the female athlete. No sig diff in the frequency or intensity of aggression between the female intercollegiate athlete and the female recreational athlete or between the black female athlete and the white female were found.

85. KREMSNER, F. R. A survey of the status of ongoing fitness programs in private industry. M. S. in Education, 1980, 101 p. (C. E. Gronbech)

The status of corporate-recreational fitness programs and their effect on the company profit margin was determined. 50 corporate medical directors of firms throughout the US and Canada were selected as Ss because they had some form of employee fitness program. Each was mailed a questionnaire and cover letter. 2 reminders were sent and a 2nd questionnaire to those who failed to respond. % responses to each area of interest in the survey were used as a basis for discussion and inferences. Among the findings were that companies had a definite interest in employee fitness; the person primarily responsible for the program was the full-time recreation director, exercise physiologist or the corporate medical director; the programs were sometimes for the total company, and sometimes just for the executive branch only; participation was voluntary or recommended; companies did not have information as to how fitness programs affected absenteeism, productivity, medical-hospitalization insurance cost, or the profit margin; the motivation for the program was primarily supplied by the executive branch and/or rank and file; no motivation was supplied by insurers.

86. LeMONNIER, W. D. The effects of varying pre and post knowledge of results time interval combinations on performance for male elementary school children. M. S. in Education, 1980, 52 p. (C. E. Gronbech)
Volunteers (N = 10) rt handed male children, aged 11-13 of normal intelligence performed a linear positioning task. Ss moved a free-wheel tracking car to the rt in search of a target 60 cm from the start while blindfolded. Ss completed 25 separate exp conditions (5 sessions 1 per day randomly assigned) with each consisting of 15 trials. Pre and post KR time interval delay varied in each of the conditions. Ss were tested individually and given directions by a tape recording, instructions were replayed if questions were asked. Verbal feedback given was; "Correct" for movement 59-61 cm, "short" < 59 cm, and "long" 61 cm or >. Absolute error was recorded to the nearest cm for incorrect responses. A 5x5 ANOVA with repeated measures was incorporated for main effects and interactions. A Scheffé post hoc was used to locate sig. It was indicated that as KR delay increased and as post-KR delay decreased, learning increased. The combination of pre and post KR intervals showed no sig effect.

87. LoBIANCO, L. A. Speed of learning and retention in minimal mentally impaired and normal pre-adolescents. M. S. in Education, 1980, 69 p. (C. E. Gronbech)
40 volunteer boys and girls, aged 8-12, 20 normal and 20 MMI (as determined by the Wisc-R and Stanford-Binet Achievement Tests) performed a linear positioning task. Ss moved a free-wheel tracking car to the left, while blindfolded, in search of the target 60 cm from the start. Ss were tested individually and given 22 trials, the 1st 2 to prevent warm-up decrement and not counted. Each was tested until reaching the criterion level (10). All were given the same instructions, their hands positioned and given the command "Go". Verbal feedback given was either "long" (attempts > 61 cm), "short" (attempts < 59 cm) and "correct" (attempts 59-61). Absolute error was recorded to the nearest cm for incorrect responses. ANOVA was used to determine sig diff ($p < .05$). Sig diff were found at the intellectual level, with normal Ss reaching the criterion level faster and retaining the skill better after a 4 wk delay interval. No sig diff was found between the 2 groups on performance.

88. PINAHS, P. A. Stimulus-response and field theory as it relates to kinesthetic tests in water. M. S. in Education, 1980, 52 p. (C. E. Gronbech)

The performances of dancers and gymnasts who learned to perform vertical and horizontal turns on land through stimulus-response were compared with swimmers who had no intentional experience in performing vertical and horizontal turns. Based on conflicting theories, the Thorndike stimulus-response and the Kohler field theory, a test of whole body kinesthesis was developed and used to measure diff. Female SHS students volunteered as Ss. 15 from each of the following groups: dance club and gymastics team; synchronized swim club; swim team; and a PE class (control). Total N = 60. Ss were blindfolded and video-taped in 7 ft of water performing the following tasks; a 3/4 and 1-1/2 rotation about the vertical axis (tuck position). A protractor transparency mounted on a TV screen measured deviations in degrees. Results of ANOVA showed that swimmers and the control group both performed sig better than gymnasts and dancers with no sig diff between control group and swimmers. The test had a validity coefficient of .86 and a reliability coefficient of .77.

89. WILSON, K. C. Academic achievement and aptitude as determinants of motor learning, performance and retention of upper elementary school children. M. S. in Education, 1980, 83 p. (C. E. Gronbech)

After a thorough explanation and demonstration, 232 JHS Ss were instructed to practice the fine motor skill of juggling. The criterion level was set at 10 successive tosses. The total no. of min to reach criterion level was recorded. The S was then given 3 additional trials and the total was recorded as the performance score. After 4 wks, the S was retested for a retention score. The rate of acquisition, performance and retention scores served as dependent variables. Ss were classified as having high or low academic aptitude, and were classified as high, avg. or below avg. academic achievers. 2x3 ANOVAs were computed to determine if diff between the groups existed on the 3 learning variables for reading, arithmetic and general achievement ($p < .05$). Tukey's HSD was utilized for post hoc comparisions. Acquisition, performance and retention scores of Ss that reached criterion level were analyzed. Ss who performed better on the retention test than the performance test were placed in a reminiscence group. Pearson r was used to determine relationships between aptitude achievement and reminiscence. It was concluded that relationships between mind and body exist but are not conclusive or universal enough to be predictive of physical and academic potential.

90. YUKICH, W. J. The effects of varying pre-knowledge of result time-interval delays on the performance of normal and mentally retarded high school boys in a linear positioning task. M. S. in Education, 1980, 59 p. (C. E. Gronbech)

24 volunteers, aged 14-18, 12 normal and 12 EMR (determined by the Stanford Binet and Wisc-R achievement tests) performed the task. Ss moved a free-wheel tracking car to the rt, while blindfolded, in search of the target 70 cm from the start. Ss were tested individually and given 15 trials (the 1st 5 were to prevent warm-up decrement and did not count). Each was given the same instructions and tested at 7 diff Pre KR time delay intervals (0, 5, 10, 15, 20, 25 and 30 sec). Feedback given Ss during the task was "long", "short" or "correct". Absolute error was recorded to the nearest cm; long responses 71 cm and short responses 69 cm, a correct response was between 69 and 71 cm. A 2x7 factorial design with repeated measures treatments was employed. Tukey's HSD was utilized post hoc ($p < .05$). Sig diff were found at the intellectual level, with the normal Ss performing superior to the EMR Ss when KR was delayed 15", 20" and 30". No sig diff were located within treatments in varying Pre KR time delay intervals or in the interaction of the factors.

COLORADO STATE UNIVERSITY (Alvin M. Pettin)
FT. COLLINS, CO

91. SCHAAKE, Darlene E. Availability and status of coaches in Class AAAA and Class AAA high schools in Colorado. Master in Education, 1980, 41 p. (A. Pettine)

The purpose of this study was to describe the teaching assignment, building placement and certification requirement of all Colorado Class AAAA and Class AAA SHS coaches. The study covered all SHS sports during the 1979-80 and 1980-81 academic years. 84 survey instruments were sent to ADs of AAAA and AAA schools on September 1, 1980. 52 questionnaires were returned. The following conclusions can be drawn: although the largest % of coaches in a given school are still full-time teachers in that building the % is decreasing yearly; the no. of recognized experts or nonteaching personnel in the coaching field is increasing yearly; recognized experts are being used in 84% of the schools reporting, while only 16% prefer not to hire them; the ADs' major areas of concern in the use of the recognized expert were in the areas of internal communication and budget expenditures; in giving their preference in the hiring of coaches, the full-time teacher in the building was the overwhelming first choice; and there was an increase in the no. of vacancies as of September 1 both years studied.

TEACHERS COLLEGE, COLUMBIA UNIVERSITY (Bernard Gutin)
NEW YORK, NY

92. KENNEDY, Edward Francis. The development of an observational system for the recording of disciplinary episodes in high school physical education classes. Ed.D. 1980, 206 p. (W. G. Anderson)

An observational system consisting of 22 student malbehavior categories and 17 teacher control technique categories was developed to record disciplinary episodes as they occur in the live setting. Observations were made by the system developer and a trained collateral coder in a suburban, an urban, and an inner city co-educational SHS. 302 episodes were recorded from among the 3 settings during the observations of 51 class periods. Inter-judge agreement reached 87.1%. During reliability testing 66% of the malbehavior and teacher control technique categories were represented in the data collected. Observations were conducted primarily to establish system reliability; however, the data indicated certain behaviors appeared to be characteristic of the PE settings observed. The malbehaviors occurring most frequently were "Moving Inappropriately--Non-Task" and "Dressing Improperly". The control techniques occurring most frequently were "Ordering to Stop--Correcting Behavior" and "Ordering to Stop--Stopping". The researcher indicates the need for this observational system to be applied to a wide sample of settings to investigate some important relationship that might be identified among the various aspects affecting the disciplinary episode in the PE setting.

93. KORNHAUSER, D. The effect of lesions of the fastigial nucleus on the static and dynamic responses of muscle spindle primary afferents in the cat. Ed.D in Movement Sciences and Education, 1980, 89 p. (A. M. Gentile)

Bilateral lesions of the superior cerebellar peduncles (SCP) in the cat result in a marked depression of fusimotor activity as reflected in the afferent response from extensor muscle spindle primary afferents. This effect is less severe, however, than that following complete cerebellectomy. Since efferents arising within the fastigial nuclei do not exit from the cerebellum via the SCP it was hypothesized that the difference in effect between lesions of the SCP and complete cerebellectomy was due to influences arising within the fastigial nuclei. In the present investigation, the responses of 65 single gastroncnemius muscle spindle primary afferents to static and dynamic extension of the gastrocnemius muscle were recorded in 15 cats before and after lesions of the ipsilateral fastigial nucleus. Static sensitivity was assessed by measuring the afferent response from 0 to 16 mm of muscle extension at 4 mm increments. Dynamic sensitivity was assessed by measuring the afferent response at the immediate termination of a ramp stretch performed at 5, 30 and 100 mm/sec. Fastigial lesions sig depressed the response of spindle primaries to static extension and the extent of the lesion was a sig factor in this effect. Dynamic sensitivity was not sig influenced by the lesions. The fastigial nuclei seem to maintain a tonic facilitatory influence upon muscle spindle primary afferents for their responses to static muscle extension. This influence is probably conveyed to the spinal cord via the vestibulospinal tract.

94. NORTON, C. H. Factors affecting circulorespiratory endurance performance in men and women. Ed.D in Applied Physiology, 1980, 147 p. (B. Gutin)

This study investigated the relationship between performance on a 3.2 km run and several physiologic and morphologic measures for 20 male and 20 female runners and joggers (M age = 27.9 yrs). Performance on the run was evaluated as the total time of the run (runtime) over a 400 m track. The physiologic measures HR, respiratory exchange ratio, V_E and VO_2 were evaluated during an incremental max treadmill run. During this test, anaerobic threshold (AT) and the threshold of respiratory compensation (RC) were also indentified. Additional measures for each S included pre and post blood lactate, hemoglobin and hematocrit assessment as well as wt, % body fat, ht and activity level measures. V_{O_2} max and RC were highly correlated to runtime (r = .89 and .90 respectively, $p < 0.01$). A stepwise multiple regression predicting runtime using these variables resulted in RC as the first variable included with the addition of V_{O_2} max adding 4.3% to the known variance. Addition of gender to the multiple regression did not add sig to the known variance. Thus, the Ss who performed best on the 3.2 km run were the individuals who had a high V_{O_2} max and were able to utilize a large % of their aerobic capacity during the run (i.e., have a high RC).

EAST CAROLINA UNIVERSITY (R. Gantt)
GREENVILLE, NC

95. GALLOP, J. E. A comparative study of the personality traits of women athletes and nonathletes. M. A. in Health and Physical Education, 1979, 35 p. (E. W. Schwarz)

The EPPS test of personality traits was administered to 24 female Ss enrolled at E.C.U., Greenville, NC. Comparisions were made between intercollegiate basketball players (n = 8), intercollegiate field hockey players (n = 8) and nonathletes (n = 8). A two-factor ANOVA with repeated measures revealed non-sig ($p > .05$) diff between groups on the full scale 15 traits (order, exhibition, achievement, endurance, change, autonomy, affiliation, dominance, succorance, deference, intraception, heterosexuality, aggression, nurturance, abasement). Interaction between groups and specific traits were also non-sig ($p > .05$). Sig diff ($p < .01$) existed between traits. For increased statistical sensitivity, an additional calculation of 15 separate one-way ANOVAs to compare groups on each trait was conducted, revealing a sig diff only on the change trait, but lack of other diff suggests that this single diff was due to chance factors. Comparison of ECU Ss with the original national standarization sample resulted in a r of + .82 ($p < .01$) in their distribution over the 15 traits. A t between ECU Ss and the standardized sample on the full scale test was non-sig ($p > .05$). This study failed to identify personality trait diff between selected female athletes and nonathletes. Also, ECU Ss were very similar to the standardized sample.

96. LEHMANN, C. L. The relationship of social class position and swimming proficiency. M. A. in Education, 1980, 39 p. (J. Grimsley)

Nonswimmers (n = 146 college Ss who failed to pass a 50-yd swim requirement of all PE students at E.C.U.) were compared to a random sample (n = 146) of swimmers (students who passed) on the basis of race and 5 social classifications established according to Hollingshead's Two Factor Index of Social Position. A complex X^2 revealed a contingency coefficient of .439 ($p<.01$) between swim skill and social classification. Swimmers within classifications were: upper-upper, 85%; upper, 70%; middle, 68%; lower, 30%; lower-lower, 11%. Of the white Ss, 68% were swimmers while only 4% of the 83 nonwhite Ss were swimmers. A sig X^2 with a phi of .585 ($p<.01$) was computed on race and swim skill. Separate X^2s compared race and swim skill within each social classification as follows: UU=no comparison (no nonwhite Ss within this classification); U=78% of white Ss and 0% of nonwhite were swimmers (phi of .528, $p<.01$); middle=79% of white Ss and 8% of nonwhite were swimmers (phi of .553, $p<.01$); L=48% of white Ss and 2% of nonwhite were swimmers (phi of .493, $p<.01$); LL=27% of white Ss and 4% of nonwhite were swimmers (phi of .341 $p<.01$). A positive relationship existed between social classification and swim skill. A relation also existed between race and swim skill, but this relationship diminished as social classification decreased.

EASTERN ILLINOIS UNIVERSITY (William Buckellew)
CHARLESTON, IL

97. ANDREWS, Linda K. The history of boy's basketball at Oakland High School from 1958-1979. M. S. in Physical Education, 1980, 57 p. (William Buckellew)

98. BEST, Lynn. A comparison of personality traits of female athletes and non-athletes at John Brown University. M. S. in Physical Education, 1980, 62 p. (William Buckellew)

A sample of 35 undergraduate students representing 5 groups was administered the Cattell 16 PF. The groups represented the female varsity athletic teams in volleyball, basketball, softball, tennis, and a group of non-athletes. Each group was compared on each factor with ANOVA. Intelligence and apprehensiveness were the only traits that varied among the groups. Although not significant, the non-athletes established the highest score on the intelligence factor followed by the volleyball, tennis, basketball, and softball groups. The volleyball group scored highest on apprehensiveness followed by the basketball, non-athletes, tennis, and softball groups. However, the groups were not sig diff ($p > .05$) and scored similarly to Cattell's standard population of female college students on each of the 16 factors.

99. BLANK, Stanley B. The effect of a single period of aerobic exercise on the concentration of serum cholesterol in humans. M. S. in Physical Education, 1980, 50 p. (T. Woodall)

Following a pre-exercise blood sample taken from each S, 7 males and 3 females (ages 17-46) jogged at an aerobic pace for 30 min. HR was taken during exercise at 5 min intervals. A post-exercise blood sample was then taken. The t was used to test the diff between pre-exercise and post-exercise serum cholesterol levels. The relationship between fitness level, as measured by the distance run, and the absolute amount of post-exercise serum cholesterol change was determined by r. 1 female S encountered an allergic reaction to certain levels of exertion which appeared to be exercise-induced anaphylaxis. The S experienced an increase in post-exercise serum cholesterol levels. When this S was not included in the analysis the fall in post-test serum cholesterol concentrations became significant ($p < .05$). The r between the distance run and the post-exercise change in cholesterol level was .57 not including the above S and r = .67 when included. A single period of aerobic exercise decreased the post-exercise concentration of serum cholesterol in normal individuals.

100. HOLAK, John. Dr. John Strahl: His life and professional contributions to physical education and athletics at Greenville College. M. S. in Physical Education, 1980, 137 p. (W. Lowell)

101. LIVESEY, Rick Alan. The effect of walk or jog recovery from anaerobic work on blood lactate levels and subsequent two-minute run performance. M. S. in Physical Education, 1980, 54 p. (T. Woodall)

8 trained male Ss were subjected to 2 max 2-min runs on a track for distance, separated by a 30-min recovery. The recovery consisted of a walk at 20 min/mile pace or a jog at 7 1/2 to 8 min/mile pace. Venous blood samples were drawn 3 min after the 2nd run. The same procedure was followed on the 2 test days, but the recovery method was alternated for each S. Blood samples were analyzed by the

enzymatic process for lactate concentration. The mean performance after the walk recovery was 812.88 yds. and for the jog recovery was 822.71 yds. Although a 10 yd. diff would be important in competition, the diff was not sig ($p > .05$). The blood lactate concentrations following the jog recovery were sig ($p < .02$) lower than the lactate concentrations following the walk recovery. There was no sig relationship ($p > .05$) between blood lactate levels and the performance values when applying the Pearson r.

102. SMITH, Sally J. A survey of selected Illinois high school girl's track and field programs. M. S. in Physical Education, 1980, 90 p. (William Buckellew)

103. WELLS, Roger D. A cardiovascular exercise program for a paraplegic amputee. M.S. in Physical Education, 1980, 91 p. (T. Woodall)

The study established a 10 week cardiovascular exercise program for a paraplegic amputee and evaluated the effects through a battery of physiological tests and measurements including body wt., skinfold thickness, RT, grip strength, static and dynamic lung volumes, HR, BP, resting and max VO_2. The S was a 27 year old male weighing 60 kg who was hypertensive and was highly motivated to improve his fitness level. The 3 day per week training program consisted of arm cranking using a modified bicycle ergometer. The S was gradually conditioned until he could crank continuously for 15 min and a total of 30 min of interval work time. During good weather the S wheeled himself in a wheelchair on a sidewalk course outdoors. The tests were given prior to the start of the program, and every 2 wks during training. The program was helpful in reducing selected anthropometric measurements and systolic BP, and there was increased ability to do aerobic work for extended periods. The S appeared to get increased enjoyment with the program as it progressed and maintained a high level of motivation.

FLORIDA STATE UNIVERSITY (P.W. Everett)
TALLAHASSEE, FL

104. ADAMSON, Sharon Kay. The relationship between selected parameters and playing time of women intercollegiate basketball players. M. S. in Physical Education, 1980. 103 p. (D. J. Johnson)

105. ANGELL, Robert Michael. The current legal status of health studios in the United States. M. S. in Physical Education, 1980. 139 p. (D. J. Johnson)
Legislation presently affecting health studios throughout the U. S. was investigated. Each state consumer protection office was sent a letter requesting information related to this inquiry. The Ralph Nader organization, the Federal Trade Commission, and the Washington, D.C. Bill Status office were also contacted. 16 states did not respond. 22 states have no laws affecting health studios in their state. 4 states responded with other unrelated information. 8 states responded indicating laws regulating education of the health studios personnel. There was also no legislation throughout the country consistently affecting the health studio industry.

106. BATTLES, Judy F. A prediction equation for selection of women intercollegiate basketball team members. M. S. in Physical Education, 1980. (D. J. Johnson)

107. CARTER, Gayvon. A history of the physical education program at Florida State University, 1901 - 1978. Ph.D in Physical Education, 1980. 319 p. (K. D. Miller)
The study traced, reconstructed and recorded the facts, which reflected the development, growth, and continuity of the PE program at FSU, from its beginning through 1978. Traditional methods of historical research were utilized to locate and investigate primary and secondary sources. Information was obtained from personal interviews with former students and former and present faculty members as well as from photographs, scrapbooks, personal files containing letters and memorandums, local and college newspapers, college yearbooks, college catalogs and bulletins, and department minutes. Investigation revealed that the early PE program, under the leadership of Katherine Montgomery, gained widespread respect as a vital part of the all-women's college. The college became coeducational in 1947, and a men's department, headed by Howard Danford, was added. Later the men's and women's programs combined, and by the mid-1960's the department was conducting a broad in-scope program which had reached a point of national prominence. From that point there began a splintering process of the various functions conducted by the department until by the conclusion of this study only the teacher preparation phase survived.

108. CUNNINGHAM, Lee Calvert. A history of the Southern Intercollegiate Gymnastic League from its beginning in 1949 to its demise in 1977. Ph.D. in Physical Education, 1980. 360 p. (P. W. Everett)

From 1949 through 1977, the League was the initial, prime, and most often sole, developmental and organizational body for all southeastern intercollegiate gymnastics. The account was sub-divided into 5 chapters: The birth of the dream of 3 men and the difficult struggle to keep that dream alive; the rapid growth of collegiate gymnastics in the southeastern U.S. and the direct effect of the SIGL upon that growth; the League's coming of age and its reaching out for recognition at the national level; the original dream fulfilled with full recognition at the national level and documentation of the rich success of southeastern intercollegiate gymnastics; and the implications and events leading to the death of the SIGL.

109. DEAN, Paula Ann. A comparative study of selected personality traits of female athletes to female nonathletes. M. S. in Physical Education, 1980. 99 p. (B. J. Yerg)

110. KHAYAMBASHI, Khalil. A time comparison between the cross-over step and side-step and relationship of selected anthropometric measurement to total movement response time in running to the side for use by a volleyball player. Ph.D in Physical Education, 1980. 65 p. (P. W. Everett)

53 male Ss were used to travel a distance of 15 ft to the right and/or left. Where there was a difference, TRT was broken down to MT and RT. The relationship between hip width, leg length, and wt to TRT and the relationship between MT and RT were also measured. The t test was employed to test for sig between the cross-over step and side-step in RT, MT, and TRT. The results indicated sig diff between the cross-over and side-step in TRT and MT, but not in RT. The Pearson Product-moment r's obtained between the anthropometric measurements and TRT were low and not sig except for leg length and TRT in the side-step. Sig r was obtained between MT and RT in the side-step, but not in the cross-over step. The cross-over step was superior to the side-step.

111. METCALFE, Lauve L. The effect of a ten week parcours exercise program on self concept, body cathexis, life and job satisfaction of state employees. M. S. in Physical Education, 1980. 125 p. (D. J. Johnson)

112. MURPHY, Margaret Dianne. The involvement of blacks in women's athletics in member institutions of the Association of Intercollegiate Athletics for Women. Ph.D in Physical Education, 1980. 113 p. (B. J. Jones)
205 of the 1978-79 member institutions responded. 111 (54%) were private institutions and 94 were state institutions; 97, or (47%) were colleges and 108 were universities; 11 (5%) were predominately black and 194 were predominately nonblack; 61 (30%) were Division I, 78 (38%) were Division II, and 66 (32%) were Division III schools. Black female athletes represent 8% of the 13,398 collegiate female athletes and are represented by a greater number on basketball teams and a greater percentage on track and field than on 12 other sports. 48% of the 8% receive some type of athletic scholarship and this represents 11% of the total awarded to females. 62% of the black female basketball players received aid as did 44% of the black females in track and field. 5% of the head coaches and 8% of the assistants were black and this 1978-79 figure represents an increase of 35% from the 1973-74 total. 11 sports were offered by more colleges in 1978-79 than in 1973-74, 2 remained the same and badminton decreased in popularity. Black females appeared to play selected positions in field hockey, softball and volleyball as well as participate in selected track and field events.

113. POWERS, Carl John. The psychological effects of biofeedback open focus self-regulation training upon homeostatic efficiency during exercise. Ph.D. in Movement Science, 1980. 267 p. (B. J. Jones)

114. USHER, Mildred M. III. A history of women's athletics at Florida State University from 1905-1972. Ph.D. in Physical Education, 1980. 313 p. (P. W. Everett)
Philosophical, sociological and physiological factors were identified that influenced and guided the development of the women's athletic program. A chronological account of actual events that transpired was complied. In 1905, when FSU was designated a college for women, all students were required to join the athletic association. 2 basketball teams were organized for a match game during the year. The winner received a challenge from the teams at Stetson University,

and Rollins College, which initiated intercollegiate competition in 1907. In 1909, intercollegiate games were forbidden. Class competition was established. Sports clubs were formed and athletic traditions were established highlighting field day, Thanksgiving Day basketball, water sports day, tennis and "F" Club. During the second time period, 1923-1947, the college leadership endorsed the WDNAAF and NSWA platform which curtailed competition for women and sanctioned sports days, playdays, intramurals and telegraphic meets. During the time period, 1947-1972, the postwar decision to become coeducational introduced the elements of competitive athletics for men. Compliance with NSWA guidelines still suppressed women's competition until 1968, with the exception of the Racquette Tennis Club, formed in 1958. In 1971, a women's intercollegiate athletic council was established to guide a 7-sports program. Leadership was also provided by FCIAW, CIAW, and in 1971-72, AIAW.

GEORGE WILLIAMS COLLEGE (Marilyn T. Thompson)
DOWNERS GROVE, IL

115. BOAN, James. Effects of a year-round school on park and recreational services. M. S. in Leisure and Environmental Resources Administration, 1979. 88 p. (J. Young)
The study sought to: describe the changes made by Bolingbrook, IL Park District in meeting the demand of the year-round school; to describe the impact these changes had on the administration of the park district; and establish a set of guidelines for the park and recreational professional who is faced with having to provide a program for a community which is converting to a year-round school.

116. COFFEY, Fran. A survey to identify leisure counseling training needs. M. S. in Recreation Administration, 1978. 95 p. (D. Clayton)
The purpose of this study was to identify training needs of Therapeutic Recreators in the area of leisure counseling. Questions were designed to elicit responses needed to identify the approximate number of leisure counseling programs throughout the United States and Canada; identify the methods for client involvement; identify the content of existing programs; and ascertain training needs of practitioners in the area of leisure counseling.

117. COLEMAN, Bruce Edward. Simple leg reaction time. M.S. in Physical Education, 1979, 27 p. (J. Coleman)
The study involved 3 age groups of male and female volleyball players, all of whom were participating in the 1978 National A.A.U. Junior Olympic Volleyball Championships. Each S's scores were averaged for each leg. Analysis attempted to determine if there were sig diff between sex in the same group, between age groupings of the same sex, between left and right RT, and between right and left handed Ss. Sig diffs were found for sex, males being faster than females and for age groupings within the same sex, older groups being faster than younger groups. No sig diff were found between right and left leg RT and right and left handed Ss.

118. CROSBY, Jerry. An educational profile of full-time camp directors of Christian Camping International (USA) M. S. in Leisure and Environmental Resources Administration, 1980, 53 p. (N. Wieterm)
This study develops an educational profile of full-time camp directors who are members of Christian Camping International U.S. Division (CCI-USA). The study pertains to the directors' educational backgrounds; careers previous to camp directing; their assessments of their educational backgrounds; and areas of greatest and least felt competence, chosen from 7 major areas of camp administration, namely, food service, health services/safety, business management, philosophical foundations in camping, program services, human behavior, and maintenance. Data were collected via a self-administered questionnaire using a sample size of 179. Only 11 of 179 Ss had degrees related to camp directing. Ss with graduate degrees rated their preparation more positively than Ss with only undergraduate degrees. The area of human behavior was chosen most frequently as the area of greatest felt competence; food service as the area of least felt competence. The area of business management was indicated to be the most desired area of study. Overall, the results indicated a need for attention being given to the professional training of current full-time camp directors who are members of CCI-USA.

119. ERICKSON, Richard E. Competitive stress and second wind. M. S. in Physical Education, 1980, 36 p. (M. Hall)
A survey of SHS and college cross-country runners from selected IL schools was conducted November, 1979-April, 1980, to study the occurrence of subjective symptoms related to

"second wind" in situations of varying competitive stress. The symptoms evaluated were relief from respiratory distress; sudden ease of running; and the feeling of being able to run indefinitely. A questionnaire, designed to measure the occurrence of symptoms related to second wind in varying competitive situations, was used. The competitive situations were divided into 3 levels: non-competitive practice sessions, competitive practice sessions, and interscholastic competition. Each S was scored in each situation on the basis of the symptom of respiratory relief alone and the 3 symptoms combined. The questionnaire was tested for reliability and was determined to be a threat to internal validity. For the symptom of respiratory relief alone, the reliability coefficients were for SHS runners ($r=.45$) and for college runners ($r=.73$). For the 3 symptoms, ($r=.45$) for SHS runners and ($r=.66$) for college runners. Factorial ANOVA showed a sig effect of the competitive stress factor on the occurrence of relief from respiratory distress alone and the combination of all 3 symptoms ($p<.05$). The academic level factor showed no such effect on the symptoms related to second wind ($p>.05$). The results on competitive stress failed to support the hypothesis that symptoms related to second wind would increase as stress increased. Academic level showed no effect on the appearance of symptoms related to second wind.

120. EVENHOUSE, John Allen. An analysis of game statistics in basketball. M. S. in Physical Education, 1979, 37 p. (J. Coleman)

Recorded data were analyzed by r and regression. Sig correlations ($p<.70$) were found between point total diff and points per possession ($r=.70$) diff in shooting percentage ($r=.64$) and diff in defensive rebounds ($r=.58$). Regression analysis showed that these 3 variables together accounted for 75% of the variance in point total diff. It was concluded that points per possession, diff in field goal % and diff in defensive rebounds are sig related to point total diff and at the high school sophomore level, a team which achieves .70 points per possession should win the game.

121. FOJO, Jesse H. Measuring conceptual learning in environmental education: A comparative study of three Conservation Corps camps, 1975. M. S. in Environmental Education Administration, 1980, 47 p. (E. Clark)

The purpose was to assess whether any sig diff in ecological concept learning occurred among enrollees at 3 Youth Conservation Corps (YCC) camps during Summer 1975. Participating camps were Mount Rainier National Park, WA; Necedah Wildlife Refuge, WI; and Rocky Mountain National Park, CO. Each camp had a diff approach to environmental education. The null hypothesis was: there will be no sig diff in "Test for Environmental Concepts" (TEEC) posttest M scores among the enrollees in the 3 camps. Posttest responses to an achievement test (TEEC), developed by the author to measure knowledge of 12 environmental education concepts, were the basis for the study. The results failed to reject the null hypothesis at the .05 level.

122. GARCIA, Israel. Evaluation of proposed volleyball scoring system. M. S. in Physical Education, 1978, 33 p. (J. Coleman)

The purpose of this study was to evaluate the Finland-Thirty as a scoring system for volleyball. The study involved an analysis of the 1976 Olympic Volleyball Competition and 3 exp tournaments. The Finland-Thirty was evaluated for efficiency, accuracy, appeal to players and spectators, side benefits and ill effects.

123. GORSUCH, Blair Thomas. Blood pressure responses to exercise. M. S. in Physical Education, 1979, 37p. (J. Joseph)

Blood pressure (BP) of males between the ages of 35 and 65 was recorded at rest, during submaximal treadmill testing, and during post-exercise recovery. The Active Group consisted of 18 men who had exercised an average of 3 times per wk for 2 yrs or more. The Exp Group consisted of 7 men who exercised an average of 3 times per wk for 8 mos. The Inactive Group consisted of 10 men who averaged less than 2 times of exercise each wk for 8 mos. The Active Group demonstrated a decrease in both systolic and diastolic BP ($p < .05$). Using ANCOVA, the Active and Exp groups showed sig changes ($p < .05$) when resting diastolic BP was compared with the Inactive Group. Rate pressure product decreased in the Exp Group ($p < .01$) and the Active Group ($p < .05$) with no diff among the 3 groups. This study tends to be consistent with most of the prevailing literature in that random, though not always sig, reductions were found in BP at rest, during submaximal exercise, and during post-exercise recovery.

124. GREENDALE-PAVEZA, Sulie. Therapeutic recreation as an evaluation measure on an inpatient psychiatric unit. M. S. in Urban Park and Recreation Administration, 1980, 33 p. (J. Young)

50 psychiatric patients on a closed unit at the Institute of Psychiatry at Northwestern Memorial Hospital were studied in an attempt to use therapeutic recreation as a measure of their progress. Patients were rated on a 5 point scale as to their movement toward the center of the scale from either extreme. The ratings were made by 2 REC professionals on the unit. The results support the hypothesis that therapeutic REC can be used as an effective measure of change, and utilization of the results of the study is discussed.

125. HARTSOCK, Deborah Leigh. Effects of exercise on body composition and cardiovascular responses in middle-aged women. M. S. in Physical Education, 1978, 47 p. (J. Joseph)

During a 9 wk period, 39 women volunteers were subdivided into: a control group that did not engage in any type of exercise; a calisthenic group that attended an exercise class an average of 2.7 times per wk and did only calisthenic-type exercises; and a walk-jog group that attended the same exercise class an average of 2.7 times per wk and also engaged in a walk-jog program. The variables tested were the % body fat and the recovery heart rate. Sloan's Skinfold Technique and the Katch Pulse Recovery Step Test were used before and after the exp period. No sig improvement in body composition was made by any of the groups. At the end of the 9 wk period the calisthenic group showed a sig within-group improvement in recovery heart rates ($p < .05$), and the walk-jog group, at the .01 level. ANCOVA revealed that the only sig diff occurred between the recovery heart rates of the walk-jog and control groups ($p < .01$). The following conclusions were drawn: both calisthenic and walk-jog exercise programs will produce sig improvements in the ability of an individual's heart to recover after strenuous exercise over a 9 wk period, but the walk-jog program will achieve greater results, and 9 wks of exercise, attended an average of 2.7 times per wk, is not sufficient to demonstrate sig changes in body composition.

126. JAMESON, Loretta Joan. Analysis of the predictive validity of the dental hygiene aptitude test. M. S. in Health Education, 1978, 38 p. (J. Swanson)

The relationship between scores attained in the Dental Hygiene Aptitude Test and the grade point average (GPA) achieved by Dental Hygiene students after one quarter in a dental hygiene curriculum was computed. A second correlation was drawn between Dental Hygiene Aptitude Test scores and the cumulative GPA after 3 consecutive quarters of the first academic year. Sig rs were found between the Dental Hygiene Aptitude Test scores achieved on the Science sub-test and the GPA at the end of the first quarter and with the cumulative GPA after the first year.

127. KAMBA, Lynne M. Analysis of Burbank, Illinois Elementary School Children using the Kraus-Weber Test. M. S. in Physical Education, 1978, 30 p. (J. Joseph)
The purpose of this study was to compare the result of the Kraus-Weber Test of Minimum Muscular Fitness given to Northeastern U.S. youngsters and European youngsters by Kraus and Hirschland in 1954 with the results of the Kraus-Weber Test given to children in Burbank, Illinois in 1977, to ascertain if there has been any sig improvement in the level of physical fitness. It was concluded that the Burbank children score sig better than the American youngsters tested by Kraus in 1954, but sig lower than the European youngsters tested by Kraus in 1954.

128. KAPSY, Sharon Solomeja. Study of outdoor education objectives for planning a residential experience selected by different outdoor education personnel. M. S. in Leisure and Environmental Resources Administration, 1978, 68 p. (W. Duncan)
The purpose of this study was to determine if different types of outdoor education personnel in a 6 state region would select different objectives in planning a residential outdoor education experience. 2 major questions were explored: did the different types of outdoor education personnel select different objectives and did the different types of outdoor education personnel emphasize different content areas? Ss consisted of administrators, teachers, environmental/outdoor educators, and college students from the states of MN, WI, IL, IN, OH and MI. A questionnaire, a Likert-type rating scale consisting of 16 statements representing a range of possible objectives for outdoor education programs, was designed by the researcher. The data were analyzed by chi square for the selection of the objectives and one-way ANOVA for program content analysis. It was concluded that there is no diff in the objectives selected by diff types of outdoor personnel for planning a residential outdoor education experience.

No particular content area received more emphasis than another by any of the 4 types of outdoor education personnel surveyed in this study.

129. KERNER, Linda Jean. *The effect of volleyball coaches' attitudes on a team's level of success.* M. S. in Physical Education, 1979, 51 p. (J. Coleman)
The relationship between business management theory and coaching theory was discussed and McGregor's Theory X and Theory Y Attitude Surveys were modified to apply to volleyball coaching. Questionnaires were distributed to sample populations of 3 age divisions in the 1978 National Junior Olympic Volleyball Championships. The following hypotheses were tested: the coach's attitudes as perceived by the players would affect the team's finish in the Junior Olympic Volleyball Championship; the coach's attitudes as perceived by the coach would affect the team's finish; the coach's attitudes as perceived by the coach and by the players would be consistent on the two questionnaires; the coach's attitudes as perceived by the players would affect the team's finish in 3 different age divisions; and the coach's attitudes as perceived by male players will differ from female players. 3 statistical treatments were used to evaluate the data. The relationships with team finish were calculated by the Spearman rho; the relationships between Ss were calculated by r; and independent t-tests for small groups were used for sex diff. No sig correlations were found for any of the attitude evaluations regardless of age category or sex of the players.

130. KOIVULA, Julie A. *A comparative study of volleyball skill development between coeducational and sex segregated physical education classes*. M. S. in Physical Education, 1978, 24 p.
The hypothesis tested was that the average performance level of high school girls in a coeducational class would be higher on the post skill test than girls in a segregated class. 6 skill tests were used: the overhead volley, the forearm volley, the bump/set volley, vertical jump, spiking, and the agility run. It was concluded that the hypothesis was supported, that on the average those participating in the coeducational volleyball class demonstrated a greater improvement in skill.

131. MAHER, Mary P. Relationship of playing time and referee control between girls' age group volleyball. M. S. in Physical Education, 1979, 24 p. (J. Angle)
The purpose of this study was to determine: the length of the rallies and the length of the games of the diff age groups of girls' volleyball competition in the 1978 A.A.U. Junior Olympics, and the amount of control exemplified by the officials at the different age levels during the 1978 A.A.U. Junior Olympics. 20 games at 3 different age levels were observed and the rallies were timed. t-tests were used to determine the relationship of the length of the rallies and the relationship of the length of games among the junior and intermediate levels, the junior and senior levels, and the intermediate and senior levels and to test for sig diffs in official control among the 3 levels. No sig diff were found between the length of the rallies and the length of the games and the amount of official control at any of the 3 levels of volleyball competition.

132. MUNIZ-ORTIZ, Ana E. Expected values of different attack variables for women's volleyball. M. S. in Physical Education, 1978, 61 p. (J. Coleman)
In order to identify the defensive court areas toward which the 2 types of attack, the dink and the spike, should be directed in order to maximize the attacking team's ability to score points, 2 different levels of women's intercollegiate power volleyball were studied. The attack was studied according to the type of attack, the height of the set, the offensive position from which the attack was initiated, whether or not the attack was blocked, the area of the court where the attack landed, and the result of the attack. According to the type of attack and the offensive position from which the attack was initiated, it appeared that there were areas in the defensive court where the attack had a great opportunity of scoring.

133. NAPOLI, Janet A. The effects of physical fitness in developing strength of middle-aged women. M. S. in Physical Education, 1980, 42 p. (J. Joseph)
Combined tools of weight training and cardiovascular activities to improve physical fitness levels of middle-aged women were studied. Simple physical fitness tests were administered to establish the level of physical fitness prior to the program. The exact testing procedure was repeated after 16 wks. The correlated t-test was employed ($p < .05$). There

was supportive evidence that a positive improvement occurred among the exp group.

134. NOVAK, Frank R. A survey of elementary physical education teachers: The impact of Public Law 94-142 on elementary physical education programs. M. S. in Physical Education, 1979, 36 p. (W. E. Langbein)
ELE PE teachers in the public ELE and unit school districts of DuPage County, IL, were surveyed to determine the type of education and experience possessed by those teaching ELE PE and to determine the magnitude of the ELE PE faculty person's teaching assignments. A third purpose was to analyze the effects of Public Law 94-142 as it specifically applies to PE.

135. OWENS, Lois A. A comparative study in the development of body image and spatial awareness in kindergarten children. M. S. in Physical Education, 1978, 92 p. (D. Misner)
The purpose of this study was to test the importance of perceptual motor training and traditional physical education on the development of body image and spatial awareness. 76 kindergarten students (N=76) served as Ss in the study. The Ss were divided geographically by a large and busy street which the school district would not allow students to cross to attend school. Geographic location was the only difference among the 2 groups. One exp group received perceptual motor training for 19 30 min periods. 1 control group received PE for the same amount of time through a traditional PE program. When the means of the pre and post test for each group were compared, the results indicated that the exp group improved sig in body image development.

136. PATEK, Donna H. The value of a kinesthetic cue in developing an inside-out golf swing. M. S. in Physical Education, 1978, 60 p. (J. Joseph)
The purpose of this study was to determine, by use of motion-picture analysis, if use of an overhead line would give a beginning golfer an inside-out swing. Two hypotheses were explored: beginning golfers using the overhead line would not have more inside-out swings than those beginners practicing without the line; and there would be no difference in ball results of those beginners using the line as opposed to those who did not.

137. PRZEKOTA, John. The effects of running 100 miles on the aerobic capacity of junior high boys. M. S. in Physical Education, 1979, 29 p. (J. Joseph)
12 boys, aged 12-14, served as Ss. Prior to treadmill testing, ht, wt and times of a 1-1/2 mile run were recorded. All 12 Ss were given the Bruce Treadmill Test and HR and VO_2 were recorded. The exp group, consisting of 6 boys, began a 8 wk, 100-mile running program. The remaining 6 boys were placed in a control group. After the completion of the program, both groups of boys were again given the Bruce Treadmill Test and the scores were analyzed for sig changes in VO_2. In submaximal efforts, HR and VO_2 showed sig changes at only 2 stages. All other changes in the variables were insignificant.

138. REPEDE, Gregory J. A method of evaluating recreation programming based on the fulfillment of participant expectations. M. S. in Recreation Administration, 1979, 58 p. (J. Young)
The purposes of this study were: to determine a conceptual basis for effective program evaluation; construct an original means and method for carrying out the evaluation; and test the validity and reliability of the entire procedure. The conceptual basis involved the use of participant expectations, those benefits which the participants in recreation programs are seeking to obtain. The survey, a set of two self-administered questionnaires, asked respondents to characterize to what degree their expectations are met through participation in particular programs. The method used was a comparison between pre-program expectations and post-program fulfillment and a correlation with resultant levels of satisfaction using the rank order correlation in both cases. The results indicated that in 45% of the programs studied there was a sig correlation ($p < .05$) between the fulfillment of expectations and resultant satisfaction. The use of expectations to measure the value of program efforts remains a viable concept. The rank ordering of expectations and fulfillment is a measurement tool that is effective. A more exact means of measuring satisfaction needs to be developed.

139. SHIREMAN, Larry. Pediatric blood pressure: A public health investigation. M.S. in Health Education, 1978, 19 p. (J. Swanson)
This study was undertaken to establish blood pressure ranges for elementary school children in Chicago to be used in the

Department of Health's Pediatric Screening Program as the basis for referring the child with elevated blood pressure for further follow-up.

140. SITRON, Thomas K. A system for the evaluation of conference and resort recreation program services developed for the 1978 summer program at the Lake Geneva Campus of George Williams College in Williams Bay, Wisconsin. M. S. in Leisure and Environmental Resources Administration, 1980, 117 p. (W. Duncan)
A model evaluation system for conference centers was developed. A self-administered opinionnaire and a researcher-administered interview were used to gather data. The evaluation provided staff members and guests with opportunity to make input into the program which helped to maintain and improve the quality of the recreational program. Findings from the opinionnaire were analyzed by X^2. Findings from interviews were tabulated by listing the frequency of responses. The opinionnaire was found to be an effective means of gathering the data used in the evaluation process. Opinions for each area of the program were statistically sig ($p < .05$) toward excellent or good except for rowing and instructional swim. There was a trend toward satisfaction with the available REC equipment at each area except the day camp. There was no sig relationship between the no. of hrs of participation in an activity and an opinion of that activity. The staff interview provided staff with opportunity to comment on the program. Comments concerning the position, staff training, and the ability of staff to work together helped to explain some of the findings from the questionnaire.

141. STRUSZ, Anne Marie. The relationship between ankle flexibility and jumping ability. M. S. in Physical Education, 1978, 29 p. (J. Coleman)
The Leighton test for ankle flexibility and the Jump and Reach Test were administered to 37 Schaumburg HS football players. r's were computed between average ankle flexion and jumping ability; right ankle flexion and jumping ability; left ankle flexion and jumping ability; body weight and jumping ability; body height and jumping ability; and right ankle flexion and left ankle flexion. There was no relationship between any of the flexibility variables or body weight and height in relationship to jumping ability. A sig positive relationship between right ankle flexion and left ankle flexion was found, although specificity between the two ankles was greater than generality.

142. TREFILEK, Thomas J. Behavioral analysis study on Coach Ray Meyer of DePaul University. M. S. in Physical Education, 1980, 69 p. (M. Langbein)

This study determined the relationships and associations between selected observable variables of Coach Ray Meyer of DePaul University, Chicago. Behaviors were charted during practice of the 1978-79 season. The X^2 Contingency and Trend Analysis determined the association between the first half season and second half season to positive and negative behavioral variables emitted; after losses and after wins to positive and negative behavioral variables emitted; and preseason, season and post-season to instruction, cues and exhortations. Relationships were obtained between observable variables emitted by the coach during practices within and among time segments throughout the season. There was no association between total positive and negative reinforcements or following games won and games lost. Both positive and negative variables existed over the same time segments. Instructions, cues and exhortations were constant over the preseason, season and post season.

143. VALASKOVIC, Dale J. The Mini Gym Leaper vs the Universal leg press in increasing the vertical jump. M. S. in Physical Education, 1980, 25 p. (J. Joseph)

Male volunteers were divided into 3 groups on the basis of their pretest on the vertical jump: 23 boys who worked on the Mini-Gym Leaper, 24 on the Universal leg press, and 27 were in the control group. The exp groups worked 3 times/wk. Ss using the Leaper performed 3 sets of 30 reps at the fast speed. Ss on the leg press did 3 sets of 10 reps using 2/3 max. When Ss reached 20 reps weight was increased. The control group did no lifting during the 6 wks of the experiment. ANCOVA showed no diff between the variables. Correlated ANOVAs showed that no intervention used in the study was effective in increasing the vertical jump.

144. WHITE, Donald D. Development and analysis of a diagnostic motor test. M. S. in Physical Education, 1979, 98 p. (J. Coleman)

The study was conducted with 30 preschool students, 3 to 5 yrs of age. 2 test administrators gave the initial diagnostic motor test (Phase I of the testing). The same people administered the retest 1 wk later (Phase III of the Testing). The Denver Development Screening Test (Phase II) was administered by two diff administrators during the week between Phase I and Phase III. Reliability was assessed by test-retest correlation, and the correlation of the test with the modified Denver Development Screening Test was used to determine validity. The total scores and the subtest scores were correlated. Item analysis for each question was also used. Similar analysis of the data was also done on 3 subdivisions according to age level. The test results for the 30 children proved to be reliable and valid. However, when the test results were analyzed by age levels, the 3 year old's results were neither reliable nor valid. It was noted that the test populations were very small.

145. WINTERFIELD, William H. Simulated food selection behavior and nutrition education. M. S. in Health Education, 1978, 56 p. (J. Swanson)

This study was undertaken to determine the effectiveness of a nutrition unit as an influence in improving the food choices of 8th grade pupils in a simulated shopping trip test given to a control group and exp group. The test was given in the form of a shopping list, from which pupils were told to choose all the goods they would eat in a 3 day period, without exceeding a $10 spending maximum. Posttests were evaluated in 3 areas: nutrition rating of foods selected; percent of foods chosen from the four groups; and total calories chosen by overweight Ss.

146. WRIGHT, Alan Nelson. The effects of high adventure activities on adolescent self-concept: A comparison of situationally specific self-concept measurements and global self-concept measurements. M. S. in Administration of Organized Camping, 1979, 119 p. (N. Wieters)

Participants of a 9 wk travel camp were measured on a global view of self before and after their summer experience. The Ss were also measured on a specific view of self taken from the contest of 3 high adventure activities: a summit ascent to Mt. Rainier; a technical rock climbing experience in the Tetons, and a whitewater rafting trip on the Green River. The measurement instruments were the Tennessee Self Concept Scale, the Gough Adjective Check Lift, a survey to obtain demographic information, a questionnaire to determine the extent of the previous experience with the high adventure activity, and staff evaluations of the participants. Data were analyzed by ANOVA, small correlated t-tests, small independent t-tests, r, coefficient of Contingency and point-biserial correlation. Results showed that participants showed sig positive increases in 9 of the 10 scales of the TSCS. The study concluded that the high adventure activities of the travel camp program had a positive effect on the self-concept of the participants. The specific views of self influenced the global view of self.

147. ZEMAN, Susan M. Employment opportunities in health, education: Chicago metropolitan area. M. S. in Health Education, 1978, 61 p. (J. Swanson)
The study was an exploratory and descriptive investigation to determine who were performing health education functions, employer preferences regarding professional background, employment practices, and future needs of the participating organizations. Hospitals and health agencies were contacted by telephone and a questionnaire was sent to the qualified representative.

HOWARD UNIVERSITY (M. Leppo)
WASHINGTON, D.C.

148. BROWN, R. L. Response time comparisons among four starting techniques in base running. M. S. in Physical Education, 1980 (R. G. Israel)
Movement times for the cross-over step, jab-step, standing sprinter's start and the momentum start were compared. Ss were 30 male members of adult softball teams from the D. C. REC Dept. and volunteer athletes from Mitchell Park REC Center. All Ss wore all-purpose spikes during testing. Ss were timed with a Dekan Automatic Performance Analyzer, arranged with 2 starting lights and a stop gate to break the circuit. Prior to the exp all Ss practiced the starting techniques while being timed with the testing equipment. Data collecting began when it was determined the Ss were able to consistently execute each start correctly. Ss executed 3 trials for each type start. The order of starting techniques was randomized. When a green light was illuminated, the S ran through the stop gate using a particular starting technique. When a red light was illuminated, Ss remained in contact with the base. 5 red light sequences were randomly distributed throughout the timing trials. The starting point for the Ss was a softball base. The stop gate was located 30 ft from the starting point. A one way repeated measures ANOVA was used. Reliabilities were very high as tested by intraclass r. ANOVA indicated that the

momentum start was sig faster ($p < .05$) than the other starts tested while there were no sig diff among the cross-over, jab, and standing sprinters starts.

ILLINOIS STATE UNIVERSITY (R. Koehler)
NORMAL, IL

149. OSELAND, D. J. Physical fitness comparisons between Down's Syndrome students and moderately mentally impaired students. M. S. in Physical Education, 1980, 63 p. (C. B. Eichstaedt)
Down's Syndrome (N=258) and moderately mentally impaired (N=650) 8-21 yr. old students in IL were compared through an assessment on 7 physical fitness test items. They were: flexed arm hang, sit-ups, long jump, softball throw, 50-yd dash, 300-yd run/walk and a shuttle run. Ss were grouped into 4 age divisions for comparisons (8-11, 12-14, 15-18, 19-21). Of 140 analyses made between groups, between groups within each sex and between sexes within each group, by way of t-tests on individual test items, only 7 revealed sig diff ($p < .05$). It was concluded that there is very little diff between the physical fitness level of Down's Syndrome and moderately mentally impaired students when the age variable is held constant. Comparisons between the sexes within each group revealed no sig diff ($p > .05$) on all test items for moderately mentally impaired, with the Down's Syndrome group having few differences.

150. RAU, R. K. Effects of strength training on the cardiovascular systems of college males. M. S. in Exercise Physiology, 1981, 41 p. (R. Liverman)
Ss were divided into 3 groups. The strength training group exercised only on a Universal Gym brand wt-training machine using an optimum skeletal muscle strength gain program of between 4 to 8 repetitions max (RM). The cardiovascular group exercised only by jogging, each at his own pace. The exercise period was 20 min per day, 3 days per wk. The inactive group Ss were not in a regular exercise program and were instructed not to change their physical activity routine during the 6-wk exp period. At the beginning and end of the exp, all Ss' cardiovascular fitness was measured by the PWC 170 test. All Ss' skeletal muscle strength was measured by the leg press, overhead press, and curls. The adjusted M of each skeletal muscle strength test and the cardiovascular fitness test were compared. ANCOVA and the

Scheffé test were utilized for each dependent variable in order to assess the sig of the diff between the 3 treatments. The specified strength training program did increase skeletal muscle strength of curls and overhead press, but did not improve the cardiovascular system in the strength training group.

151. SHARPHAM, E.P.L. Selected physical education programs from an Illinois and an Australian high school. M. S. in Physical Education, 1980, 75 p. (R. Koehler)
This comparative study was concerned with isolating the similarities and differences between the current PE programs from Lyons Township HS, Chicago, and Baulkham Hills HS in Sydney, Australia using the historical method and Bereday's model for juxtaposition and comparison. The collected documents were externally criticized by establishing: verification of authorship; professional qualifications of the author(s); and the validity, date of construction and evolution of the documents. Internal criticism to establish the meaning and accuracy of the documents revealed some cultural difference with regard to the use of certain words. To expedite comparison the program aims were categorized as affective, cognitive or psychomotor. The program content was categorized into the areas of games, dance, gymnastics, aquatics, track and field and daily life activities. It was concluded that the written programs of PE from both schools were essentially different. Recommendations for both schools were made in conjunction with suggestions for future research on many levels.

152. TUCKER, P. S. Present status of adapted physical education programs in Illinois public high schools. M. S. in Physical Education, 1980, 72 p. (C. B. Eichstaedt)
A questionnaire was sent to IL SHS (N=716) to determine to what degree they are meeting the needs of handicapped students in PE. The no. of responses from PE DEPT heads = 368 (51%) schools. The Chi-Square method of distribution was used to evaluate the questions with p set at .05. The findings reveal that 51% (N=188) of the SHS mainstream all their handicapped into regular PE with only 38% of these altering the activities to meet the students needs. 28% (N=103) offer an adapted PE program with 40% of these writing IEP(s) for the handicapped students. 88% of the instructors teaching adapted PE have a PE degree. The most

frequent reasons for not offering an adapted PE program were lack of facilities, lack of enough handicapped Ss, and lack of trained instructors. Only 14% of the IL school districts responding have offered workshops to train faculty in adapted PE.

INDIANA UNIVERSITY (Wynn F. Updyke)
BLOOMINGTON, IN

153. ABSHER, Ruby. The history of the Indiana State Board of Health from 1922 to 1954. Doctor of Health and Safety, 1979, 323 p. (Donald J. Ludwig)
An outline, based upon the topical and chronological arrangement of data in time periods to correspond with the administrations of health commissioners who served from 1922 to 1954, was developed. An effective PH program was designed. Diverse methods and skills were employed to cope with a variety of PH problems. Educ and enforcement efforts resulted in an improved quality of milk, food, water, drugs, proper labeling of products, and correct weighing and measuring of commodities. Programs promoting immunization, control of venereal diseases, good maternal and child health, industrial safety, fluoridation of public water supplies, understanding of chronic diseases, and control of tuberculosis were implemented. Sewage treatment facilities and sanitary school buildings were constructed in many communities at the insistence of the ISBH. A st-wide hospital plan was developed, the Merit System was adopted, and 5 branch offices were strategically located throughout the st. Vital records were collected and analyzed to provide assistance to program planners. Inadequate funds and periodic personnel shortages limited programs. Fed funds were available for specific programs. Educ efforts made the public aware of the importance of individual responsibility in solving problems. The broadened concept of what constituted a sound PH program was evidence of growth and expansion in the field.

154. AL-HAROUN, Mesaed Rashed. Three-dimensional cinematographic analysis of selected full twisting movements in gymnastics. Ph.D. in Human Performance, 1980, 249 p. (John M. Cooper)
Phase-locked (2) Locam cameras were used to film 8 male Ss while executing twisting movements in 3 events. Ss=6 were filmed in the floor exercise event and in the rings event; Ss=3 were filmed in the horizontal bar event. Trials (2)

were filmed for each S in each event. Camera speed was 100 fps. 1 trial was selected for analysis. Frames (30) were digitized for each S in each film. The data included displacement, temporal information, angles and velocity. A recently developed computer program (THREED) was used for the 3-dimensional anal of the data. Natl. judges (5) were used to diff between the performers. Reliability measurements were conducted on the investigator's digitizing skill and on the judges' scores. The arms, body and head movements were the main movements in initiating and facilitating twisting. The arms movement was more important than the other 2 in executing the twist movement. Each gymnast had his own technique in executing the twist which was a combination of more than 1 technique as discussed in the lit. The nature of the event altered the execution of the twisting movement. The newly developed computer program designed for 3-dimensional anal was useful in conducting this investigation. The movement of the arms after the body becomes airborne is the most important motion in executing the twist. Because of the individuality of each performer, it is very diff to determine common characteristics in most of the variables investigated, especially the velocity values.

155. BADR, Laila Hassan. An instrument to determine the health needs of elementary school children in Egypt as perceived by administrators, health and science teachers, and health visitors. Doctor of Health and Safety, 1978, 165 p. (Donald J. Ludwig)

Purposes of this study were to form a basis for determining priorities of health needs and action necessary to meet those needs and form a basis for curr change to meet the health needs for children in Egypt. The inventory was submitted to a 33 Egyptian jury of experts. A pilot study involving 12 schools from Cairo and Giza governorates was undertaken. Methods (2) of determining the reliability were the test-retest and the Cronbach's Alpha. Factor analysis was performed for the purpose of revising the inventory. The SPSS program was used to analyze the data. The inventory was administered to 105 principals, 105 HE and science teachers, and 105 HE visitors with a period of 2 wks elapsed between administrations. Curr validity of the instrument proved to be well established, the reliability coefficient was .99; internal consistency, .98; as a result of the factor analysis 14 health statements were deleted. The inventory is a valid and reliable instrument, can be administered with ease and can be reliably used for further research in the field of HE.

156. BAGONZI, John Albert, Jr. The effects of graded weighted baseballs, free weight training, and simulative isometric exercise on the velocity and accuracy of a thrown baseball. Doctor of Physical Education, 1978, 120 p. (J. B. Daugherty)

SHS baseball candidates (N=48) ranging in age from 15 to 19 were tested initially for throwing velocity and accuracy. Ss were randomly assigned to groups and treatments. At the culmination of the exp period Ss were tested for throwing speed and accuracy. All Ss were tested at the end of each cycle. The no. of training bouts was 36 (6 bouts for 6 cycles). After each cycle, resistance was increased. Variations among graded weighted baseballs, free weight training, and simulative isometric exercise was used for each treatment. ANCOVA was used to compare the effects of training with weighted balls, the bullworker, free weights, and combinations thereof on the velocity and accuracy of a thrown baseball. Scheffé's Test for Multiple Comparisons was also used. ANCOVA indicated that overall overload training will sig improve the velocity and accuracy of a thrown baseball; no overload group showed any advantage over the others on its effect upon velocity and accuracy. Overload training will improve velocity and accuracy in pitching a baseball; however, it is difficult to justify any type of overload over the other.

157. BEELER, Cheryl Suzanne. Effects of three Comprehensive Employment and Training Act (CETA) programs on selected functions of municipal parks and/or recreation departments. Doctor of Recreation, 1980, 235 p. (T. R. Deppe)

The problem was to investigate the effects of CETA's Public Service Employment program, Summer Youth Program for the Economically Disadvantaged, and the Young Adult Conservation Corps program on selected functions of municipal parks and/or REC Depts. A survey instrument was developed, critically reviewed by a jury of experts, and pilot tested prior to its mailing to 400 randomly selected municipal parks and/or REC Depts. Frequencies, M's and %'s were used to analyze data pertaining to the personnel positions and responsibilities delegated to CETA workers, and the effects of CETA lay-offs on departmental operations, 4 predictor variables (the type of CETA program, fiscal pressure, population of the city or district, and type of sponsor) were selected to study relationships between variables and the problems encountered in the CETA program and to examine the seriousness of those problems. Most depts. employed CETA staff in unskilled positions and assigned them to jobs which maintained existing programs and services. The 3 problems most frequently encountered included: CETA funding was unpredictable, CETA staff required more job training, and demanded greater supervision than regular staff. Depts rely heavily on CETA workers to maintain basic, on-going programs and services.

158. BINKLEY, Anne Lloyd. Assessment of education needs of personnel who provide services to Indiana aged. Doctor of Recreation, 1980. (Janet R. MacLean)

A comprehensive list of full-time, paid community-based personnel who provided services to the aged in IN was compiled. A survey instrument was designed to elicit background characteristics and to determine responsibilities, competencies, and educ needs of personnel serving IN aged and was mailed to the 678 Ss identified as serving IN aged. The data obtained from the 335 returned questionnaires were analyzed for the purpose of identifying implications for professional preparation and continuing educ for personnel serving the aged. Ss evidenced a desire as well as a need for better opportunities for formal and continuing educ opportunities. The educ needs of the 16 areas on aging and of the various personnel positions were similar. Educ needs of current personnel serving IN aged included programming, basic introduction to gerontology, fiscal management, legislation and regulation, administration and management, motivation, and communication.

159. BOURGEOIS, Arthur Romeo. Metabolic and kinetic energy expediture in running on a non-graded treadmill at various speeds. Doctor of Physical Education, 1980, 97 p. (C. H. Strong)

The investigation undertook to determine metabolic energy expenditure diffs among Ss and to observe whether or not these diffs were reflected in and attributable to kinetic energy. Data were secured from 9 male Ss. Tests were conducted on a level grade for 6 min at speeds of 229, 242, 256, and 269 m/min. Metabolic energy was measured by the open circuit method of calorimetry. Kinetic energy values were derived from 2-dimensional film data taken with a high speed 16 mm LOCAM camera at 100 fps. Metabolic and kinetic energies per unit distance increased with increasing speeds. Max VO_2 was related to the % of work done aerobically and both in turn were related to metabolic efficiency. Linear kinetic energy was the principle contributor to total body kinetic energy. Linear, quadratic and exponential relationships were high for both metabolic energy-speed and metabolic energy-kinetic energy relationships. Metabolic efficiency-mechanical efficiency had a high inverse relationship. Speed, Max VO_2, and % of energy expended aerobically influenced metabolic energy expenditure efficiency. Metabolic energy expenditure efficiency in turn inversely influenced mechanical efficiency. Linear, quadratic and exponential relationships are all good aerobic responses. Therefore, when energy efficient running is important, the development of the aerobic system is essential.

160. BRUNNEMER, James L. Characteristics and attributes of highly successful intercollegiate basketball and football coaches. Doctor of Physical Education, 1980, 186 p. (J. B. Daugherty)

The Delphi Technique (3 questionnaires) with controlled opinion feedback from participants was employed with 27 male basketball and football coaches of NCAA Div. I institutions who had each won 70% of the games coached or had been named Nat'l Coach of the Yr by the appropriate writers' assoc. The coaches rated 23 characteristics and attributes considered important to success in athletic coaching. The questionnaires were designed to abet in-depth analysis of the judgments of the coaches in order to develop a profile of the successful basketball and football coach. Statistical rankings and written comments of the coaches formed the output of the study. A hierarchy of the characteristics and attributes was identified. In the collective judgment of the experts, the "drive to succeed" characteristic emerged as most important to coaching success. At the bottom of the rankings was "authoritarianism", an element almost totally rejected by the Ss as sig to their success in coaching. A no. of elements studied shifted dramatically from first to final rankings. It was demonstrated that diffs exist in the relative importance of certain elements to success in coaching of basketball to that of football. No explicit profile of characteristics and attributes of the highly successful coach emerged from the study.

161. BUSTAN, Mahmoud Abdul Husain. Factors affecting and influencing relationships between doctors and patients in the State of Kuwait. Doctor of Health and Safety, 1979, 210 p. (Donald J. Ludwig)

A prelim pilot study, employing a select group of approximately 12 doctors and 30 social experts, representing patients, answered questionnaires concerning doctors' and patients' views of the strengths, shortcomings, and possible avenues to correction of the failures of PH care in Kuwait. Based upon the prelim study, a sec questionnaire was drawn up and circulated among 180 doctors in the Kuwait PH program and among 994 PH service patients. The usable responses to the questionnaires were fed into a mini-computer, compiled, analyzed and translated from Arabic into Eng. Responses indicated a general concern over the lack of communication and trust between doctors and patients. Patients complained about the overcrowding and cursory examinations of the clinics, and doctors complained about the lack of cleanliness and the heavy load of patients which left them no time for research and health program dev.

162. CATO, Bertha M. The attitudes and behavioral intentions of practitioners in the park and recreation profession toward continuing education. Doctor of Recreation, 1980, 136 p. (W. Donald Martin)

A questionnaire was mailed to 400 park and REC practitioners randomly selected from the 1980 membership list of the Amer. Park and Rec. Society, a branch of the Nat Rec. and Park Assoc. Data were collected on the dependent variables of practitioners' attitudes, behavioral intentions, and past behavioral patterns related to continuing education. Variables in the study included age, race, highest degree earned, professional curriculum, level of employment, length of employment, and income. Data obtained from 230 questionnaires were analyzed utilizing SPSS subprograms frequencies, canonical r, Pearson r, and multiple regression. The overall M score on attitudes was 3.71 on a 5 pt scale and 3.81 for the behavioral intentions M score. There were 3 sig relationships found between attitudes and behavioral intentions in applying the canonical r analysis. When attitudes were correlated with the 7 independent variables, race and level of employment were found to be sig ($p<.05$). When attitudes were regressed with the 7 variables, they were all sig ($p<.05$). There were no relationships found between behavioral intentions and the selected variables. A relationship was found between park and REC practitioners' past behavioral patterns and their future behavioral intentions.

163. COTTER, Linda Louise. Group cohesiveness and team success among women's intercollegiate basketball teams. Doctor of Physical Education, 1978, 159 p. (Anita Aldrich)

The Sport Cohesiveness Questionnaire, a measure of group cohesiveness, was administered previous to and following the season to 138 members of the women's basketball teams from 2 college conferences in northern CA. Success was determined by % of games won. The data were analyzed by stepwise multiple linear regression analysis, discriminant function analysis and ANOVA. The .05 level of sig was used for all tests. The cohesiveness variables Closely Knit and Power, the satisfaction variable Satisfaction General, and the motivation variables Task Orientation and Affiliation Orientation were sig predictors of success. The variables Power, Closely Knit and Enjoy Playing with Others were sig in discriminating between success groups. Scholarship schools differed from non-scholarship schools by scoring sig higher on Self Orientation and sig lower on Affiliation Orientation. Successful and unsuccessful teams did not differ on preseason to postseason cohesiveness changes. Several of the variables can be used to predict success and discriminate between successful and unsuccessful groups. Season changes in cohesiveness do not affect success. By administering the questionnaire the results may be used by players and coaches to predict success and better understand the interaction attitudes of the team members.

164. DAWSON, Mary Lou. Dynamics of the approach run of the flop style high jump technique. Ph.D. in Human Performance, 1979, 123 p. (John M. Cooper)

A 3 dimensional analysis was used to identify the kinematic parameters assoc with the performance of the approach of the flop style high jump action and the identification of the kinetic parameters associated with the take-off phase of the flop style high jump action. Two LOCAM phaselocked cameras were used to film 8 jumpers performing 6 trials at varying hts. Camera speed was set at 150 fps to assure accurate estimates of key phases of the approach run. A 4X4 ft force platform was placed at the take-off point. This force platform recorded forces on an oscillograph datagraph. Forces were recorded in vertical, horizontal right and left, and horizontal forward and backward directions. Data were extracted from film with the use of a Wang Programmable Calculator equipped with a digitizing surface. Upon completion of data extraction, segmental endpoints were transferred to a CDC 6600 Computer where they were converted to 3 dimensions. A reliability coefficient of .92 was found for the consistency of the Ss' approach pathway, as defined by ° of curve at footplant over the final 7 strides. Ss revealed sig r between vertical jump scores and ° of body lean at take-off, final stride length and penultimate stride length, final stride length and lateral force to the right, penultimate stride and lateral force to the right, lateral force to the right and ° of curve at take-off, and lateral force to the left and ° of body lean at footplant of the penultimate stride. Relationships within Ss revealed sig r's between horizontal velocity and actual velocity, and bar ht and actual velocity at the tangent to the spiral. Sig relationships existed within Ss attempting higher bar hts. as compared to Ss attempting lower bar hts.

165. DeMEERSMAN, Ronald. The possible role of trauma in athletic pseudonephritis. Ph.D. in Human Performance 1980, 112 p. (J. E. Wilkerson)

The study was designed to separate the effects of exercise and trauma upon the kidney in judo. 9 male Ss were studied to evaluate the possible renal dysfunction after repeated falls onto each of two mat thicknesses. Force plate data revealed no compressive force transmitted through the 10 cm mat and 5919 joules for the 2.5 cm mat. The vigorous exercise session involved alternating throws by partners at a controlled rate for a total of 100 throws each. The protocol was repeated for each mat type. Blood and urine samples were collected prior to each exp session and at 2, 4, 9 and 24 hrs post-exercise/trauma. Variables examined were blood and urine osmolality, free water clearance, urinary acidity, glomerular filtration rate, electrolyte behavior, hematological factors, proteinuria, albuminuria and hematuria. Renal insufficiency was measured by the endogenous creatinine clearance. Results involving the 2.5 cm mat revealed a sig decrease in the 24 hr filtration rate. A renal shutdown of 63.46% occurred as compared to control values, suggesting an excessive renal mobility associated with the trauma of falling. The hematuria present in the traumatic session was sufficiently pronounced to grossly discolor the urine. The differential results demonstrated that trauma, and not exercise per se,was responsible for the occurrence of athletic pseudonephritis in judo players.

166. ELBANNA, Aida Abd elazim. Islamic religion as a basis for a health education program. Doctor of Health and Safety, 1979, 178 p. (Donald J. Ludwig)
This study sought to identify and evaluate the scientific merit of the health instructions contained in the Qur'ān and narrated in the Sunnah. Several experts in religious writings and studies were asked to suggest valid references. The selected resources were Pickthall's translation of the meaning of the Qur'ān, Khan's translation of Sahih Al-Bukhari, and Siddiqi's translation of Sahih Muslin. Pilot collection for the Islamic health instructions from the Qur'ān and the 2 Sahihs was conducted. The study was organized to identify the Islamic health instructions for the suggested classifications. A review of the related scientific lit was transacted. After this review more Islamic health instructions were added. There are many health instructions embedded in the Qur'ān and narrated in the Sunnah which could be basis for HE programs for Muslims on any educational, socio-economical level. As Islam is adhered to by Muslims, it is probable that HE programs based on Islamic instructions could be the proper way to solve many of the health problems that Islamic countries face. Islamic physical and social health instructions do not conflict with science. The spiritual, psychological and mental health instructions in Islam clash with the Western theories as the Islamic ideology differs from the Western ideologies. As Islam is based on faith in Allah followed by well drawn good behaviors and attitudes, these bases lead to a set of ethics and norms. Ethics and norms correlate with mental stability. The Islamic health instructions are considered preventive in type. A combination of Western technology and Islamic ideology may be the best future for mankind.

167. FORNWALT, Marlene. Selected biomechanical and anthropometrical differences in males and females in the execution of a gymnastic roundoff. M. S. in Physical Education, 1980, 75 p. (J. M. Cooper)
Specifically, the problem was to study selected temporal and kinematic variables associated with 4 diffs between males and females in relation to the execution of a roundoff on the floor exercise event in gymnastics. The diff selected were arm length, leg length, body height, and the location

of the center of gravity of the body. 10 members from each of the IU men's and women's varsity gymnastic teams were used as Ss. Each S executed 3 trials of a roundoff back handspring sequence while being filmed with a 16 mm LOCAM camera. One trial for each S was selected for analysis by 3 rated judges. The film data were analyzed by using the FILMDAT computer program which provided information concerning the velocities, displacement, and accelerations of the various body parts. 5 kinematic variables were statistically analyzed using MANOVA. 4 other variables were analyzed descriptively. A sig diff ($P < .01$) was found between males and the females in the execution of the roundoff. The univariate F-tests showed a sig diff at the .05 level between the 2 groups on only 1 of the 5 variables tested. The descriptive analysis found that males and females obtained similar measures on all the factors considered. Males had a greater distance between the hands and feet at the landing of the roundoff than did the females. This greater distance was a result of the greater anthropometric measures of arm length, leg length, body height and a lower body center of gravity.

168. GAUNT, Sharon J. Factor structure of basketball playing ability. Doctor of Physical Education, 1979, 139 p. (Clinton Strong)

The study investigated the factor structure of basketball skills in the domain of human motor performance to identify the robust factors in that domain. A battery of 20 exp tests representative of the dimensions of shooting, passing, jumping, moving without the ball, and moving with the ball was administered to 167 HS girls. A theoretical model of the hypothesized dimensions of basketball skill was defined by the use of 4 factor analytic models employing 2 rotational schemes. Results were obtained from these 8 derived solutions. 3 of the 4 factor analytic models yielded 4 factors in each of the 2 rotational schemes. The 4th model yielded 11 factors in each derived solution. Robust factor I was best interpreted as dribbling and best represented by the Dribble test. Robust factor II was designated explosive leg strength and best represented by the Standing Broad Jump. Robust factor III was interpreted to represent lay-up shooting and best measured by Field Goal Speed and Jump for ht. Factor IV was designated passing and best represented by the Push Pass for Accuracy. Based on the findings of the study, the hypothesized dimensions of basketball playing ability were not supported. The multidimensional model resulting from this investigation is represented by dribbling explosive leg strength, lay-up shooting and passing.

169. GORTON, Beatrice. Selected kinetic and kinematic factors involved in the basketball jump shot. Ph.D. in Human Performance, 1979, 96 p. (John W. Cooper)
4 male and 4 female Ss selected from I.U. Varsity Men's and Women's Basketball Teams during the 1975-1976 season completed 3 shooting trials at a distance of 15 ft. directly in front of the basket. Force plate recordings and 16 mm filmed records were obtained simultaneously for all shooting trials performed. Two LOCAM 16 mm cameras running at 200 fps were placed perpendicularly at the front and side of the motion. A force platform was used to record kinetic measures for the final step to take-off. The average time for the execution of the jump short varied little for all Ss. There were some temporal diffs between the men and the women during the 3 phases of the motion. Movement patterns varied between the men and the women. The men exhibited a greater M vertical impulse per unit of mass. The better jumpers recorded a greater total vertical impulse and horizontal thrusting impulse. It is possible through the use of force platform equipment and cinematography to identify selected kinetic and kinematic parameters that are important in highly skilled basketball shooting. Development of shooting ability is dependent upon the mechanical efficiency of these parameters. The men were more efficient shooters than the women.

170. HARPER, Landis Doyle. A psychophysical examination of linear movement. Doctor of Physical Education, 1980, 103 p. (Harold Morris)
This investigation attempted to quantify the ability to differentiate between similar movements about 4 criterion distances of 10-, 20-, 30- and 40 cm. and to identify trends that may exist across criterion distances. Simultaneously, the impact method of movement termination was compared to 2 alternative methods. 24 Ss were randomly divided and assigned to 1 of 3 methods of movement termination. About each of the 4 criteria, similar movement distances were compared to the particular criterion. By tabulating the "greater" responses an ogive curve was formed at each criterion for every S. The distances corresponding to 25%, 50% and 75% of "greater" responses were used for statistical analyses. The 25% and 75% of "greater" responses represented the lower and upper thresholds. A 3 X 4 X 2 factorial

(3 methods of termination and 2 repeated thresholds within each of the 4 criterion distances) was used in the analysis. The 50% of "greater" responses equalled the constant error distances. The design for this analysis was a 3 X 4 factorial. Data were subjected to trend analysis and comparison of the impact method of the 2 alternative methods of movement termination. The impact method of movement termination did not sig affect the data when compared to the alternatives. Increased undershooting of the criterion can be expected as the length of the criterion is increased. Lower and upper thresholds were found to be linear across criteria, indicating that the range of ability to differentiate is a function of the distance moved.

171. HARPER, Thomas Graves. Iris pigmentation: Its effect on reaction time, choice movement time and response time. Doctor of Physical Education, 1979, 121 p. (Harold Morris)
The problem under investigation was the effects of iris pigmentation, stimulus conditions, and sex on reaction time (RT), choice movement time (MT), and response time. Caucasian male and female students at Asbury College (N=52) were administered a test on 2 diff occasions using a compatible and Stroop stimulus condition. The M of each S's 35 trials for RT, choice MT, and response time were analyzed. Sex, iris pigmentation and stimulus conditions were levels of the design used. It was found that choice MT was faster when the stimulus was presented in the compatible condition. RT and response time were faster when the stimulus was presented in the Stroop condition. Iris pigmentation and sex did not affect RT, choice MT or response time. Presentation of the stimulus in the Stroop condition improves RT and response time.

172. HARVILLA-ELLIS, Nancy Theresa. Recommendations for the revision of teaching about drugs: A curriculum guide, K-12. Doctor of Health and Safety, 1979, 181 p. (Donald J. Ludwig)
Procedures used to identify strengths and weaknesses of the Guide were: design selection and construction of a data gathering instrument, preliminary refinement and validity of the instrument, pilot study and refinement of the instrument, identification of the sample, and administration of the instrument. Of 283 potential respondents, 118 instruments were returned of which 65 were usable. All but the background data were analyzed according to the elem and adoles

levels of the Guide and presented as frequencies and % in tables. Suggested objectives, content, and learning activities were perceived as "good", and resources as "very good". Review papers and teaching aids were considered helpful. Respondents' lesson content and teaching techniques were moderately influenced by the Guide with suggested resources having the greatest influence. All areas of the Guide needed some updating or revision. R coefficients indicated internal consistency of responses. Teaching About Drugs is an effective tool to assist educators in planning and presenting information about drugs, but there is a need for revision. Findings should be reported to the Study Comm. on Drugs of the Amer School Health Assoc (ASHA). The developer-revisors should proceed with a revision of the Guide utilizing the findings and recommendations for revision. ASHA should modify their purchase order forms to more clearly identify potential users of the Guide.

173. HAWKINS, Barbara Ames. Perceptions of recreation personnel toward mental retardation labels and selected recreation experiences. Doctor of Recreation, 1979, 211 p. (Janet R. MacLean)

To indicate the implications of perceptions for programs and services, 5 point Likert scales were used to meas attitudes on 3 critical statements for each of the selected REC experiences. The responses were assigned values for data analyses. Descriptive measures (frequency distributions, M and SD) were computed and analyzed. The data were entered into a factorial arrangement and MANOVA was utilized to investigate the impact of labeling theory experience, length of work experience and MR labels upon respondents' perceptions. Respondents discriminated among labels with more positive perceptions of the label normal, neutral to positive perceptions of the labels educable and TMR, and neutral to neg perceptions of the labels severly and profoundly MR. Respondents supported the REC experiences as appropriate for the normal child, EMR child and TMR child but were undecided with regard to the experiences for the SMR and PMR child. Respondents supported a mainstreamed setting for REC experiences for the normal child, EMR child and TMR child but lacked consensus regarding the nature of the setting for the SMR child and PMR child. Experience with labeling theory and length of REC work experience were not found to have a sig impact upon respondents' perceptions. Labels tend to influence how therapeutic REC personnel perceive MR and the delivery of programs and services to labeled handicapped children. Labeling theory experience and length of work experience seemed to have no sig influence on perceptions. Neg perceptions of labels may influence the types of environments recommended for selected REC experiences and MR children.

174. JAMIESON, Lynn. A competency analysis of recreational sports personnel in selected institutional settings. Doctor of Recreation, 1980, 184 p. (W. Donald Martin)

A questionnaire, content validated by a jury of experts and tested for representativeness through a pilot study, was sent to 100 randomly selected REC sports administrators in each of 3 institutional settings: municipal, educ and military. Descriptive statistics were used to determine potential employment figures in each setting and to determine the relative importance of competencies by level. ANOVA was employed to determine whether sig diffs existed among institutional settings and professional levels based on the type of competency needed. Potential employment projections revealed an available job market in each institutional setting for REC sports personnel. Entry level competencies were chiefly program based. Mid-management level competencies varied greatly among the curriculum areas. Top-managment level competencies emphasized business and management skills. No sig diff were found among institutional settings based upon the type of competency needed. Sig diff existed in all curriculum areas with regard to professional levels. Identifiable diff exist in professional levels based on competencies. Such diff may be a guide to planning undergraduate and grad curr in a REC sports specialization. There appears to be an acceptable body of knowledge concerning REC sports among the institutional settings studied.

175. KAMAL, Ahmed Fouad. Social environment and incentives as motivators in swimming. Ph.D. in Human Performance, 1980, 105 p. (H. Scott Greer)

The design of the study enabled determination of the separate and the joint effects, on swimming speed, of 4 independent variables: age level (10-12 and 13-15 yrs); ability level (high and low); social environment (alone, non-competitive and competitive triad); and incentive (candies and just for fun). Ss rated the likeability of 6 incentives by social environment conditions after swimming under each condition. 40 Ss of each of the 2 age groups were randomly selected from 3 swimming clubs. Each group was subdivided into 2 ability levels. A 2x2x3x2 factorial design with repeated measures on the incentive by environment conditions was used with swimming speed in sec for the 50 m crawl as the performance dependent variable. Separate ANOVA were conducted on the swimming speeds and the likeability ratings, revealing the following effects: Incentive reliably enhanced performance. Children swam slowest when alone. Swimming in the non-competitive triad enhanced performance, and this effect was further increased in the competitive triad condition. The study established enhancement due to coaction and competition. Incentives had the largest effects in a competitive context for the younger Ss, while incentives had the smallest relative effects in the triadic conditions for the older Ss. Regression analyses showed M swimming speed in each of the 6 exp conditions to be a linear function of their M likeability.

176. KUNSTLER, Robin A. Competencies for therapeutic recreation field experience site supervisors. Doctor of Recreation, 1980, 136 p. (David R. Austin)

A list of 69 competencies in 9 areas was developed from a series of 17 interviews with educators, practitioners, and students, and from a review of related lit. A survey instrument was developed, critiqued by a panel of experts, and pilot tested. The instrument was sent to 178 employees at 58 agencies, used as field sites for therapeutic recreation (TREC) students from I.U. Returns were received from 91 employees, a response rate of 51%, from 51 (88%) of the agencies. Respondents perceived all 69 competencies to be needed by TREC in order to supervise field experience students. They perceived themselves proficient in all 69 competencies. The competency area ranked highest for need and proficiency was Interpersonal Relationship. Respondents primarily developed their proficiency in the competencies on the job. They indicated a desire for further training in the areas of teaching skills, knowledge of TREC, contributions to student's growth, and evaluation techniques. Supervisors from clinical and non-clinical settings did not appreciably differ in their perceptions of need for competencies.

177. KOLKA, Margaret A. Role of plasma proteins in the maintenance of red cell and plasma volumes. Ph.D.

in Human Performance, 1980, 43 p. (J. E. Wilkerson)
4 adult males participated in an incremental exercise test at 5 submax exercise intensities as well as during max exercise. Prior to the exercise bout, each S was equilibrated (0.5 hr) in both supine and upright positions. During each rest and exercise period, standard metabolic measurements were made, core temp recorded and peripheral venous blood sample drawn from an indwelling catheter in the cubital area. In each blood sample the whole blood hemoglobin concentration, the hematocrit, total plasma protein concentration, albumin concentration, and total globulin concentration were determined. From these measurements, plasma volume, plasma water concentration, red cell water concentration, red cell protein concentration, total blood protein concentration, total protein volume, albumin volume, total globulin volume and content of each variable were determined. The transition from supine to upright elicited the expected hemoconcentration. The magnitude of the positional changes was similar to those observed over the entire range of exercise intensities. Based on the results of this investigation, it was suggested that the fluid volume alterations observed were the result of hydrostatic forces with resultant water movement out of the vascular bed, and were not due to any active processes involving redistribution of proteins within the various fluid compartments.

178. KRAC, Aaron. Social scripts and female masturbatory behavior: A causal model. Doctor of Health and Safety, 1979, 185 p. (Donald J. Ludwig)
The problem was to test the validity of the theory in predicting adult sexual behavior from childhood and adolescent experiences. After the childhood and adolescent variables were operationalized, a questionnaire was developed by the researcher and administered to 207 female grad students attending I.U. during the first SS, 1978. Data were analyzed by path analytic techniques. The variables were causally ordered and analyzed with respect to their impact on masturbatory behavior (MB). MB was most sig influenced by parental social class, the acceptance of romatic love, and neg attitudes toward masturbation. Social class and the romantic love variables were positively associated with the tendency toward a greater frequency in behavior. The neg attitudes toward masturbation variables was the most important influence in the model, with the attitude variable

having a neg impact on MB. The model only weakly supported the theoretical mechanism by which women are socialized into heterosexual behavior. The social script theory, as conceptualized, is more valuable as an explanation of the socialization of sociosexual behaviors than of the privatized behavior and attitudes of masturbation. The contention that masturbatory attitudes and behaviors in women are rooted in broad social experiences was not supported by the model as conceived.

179. LARSON, Charles L., Jr. The effect of selected tennis racket and string variables and ball velocity and the force of a ball-racket impact transferred to the arm. Doctor of Physical Education, 1979, 108 p. (John M. Cooper)

Tennis rackets (54) representing 3 levels of composition and racket flexibility (RF) were strung with nylon or gut string at 35, 50, or 65 lbs of tension. Each was securely clamped to a force measuring machine which was connected to an oscillograph recorder on which the force measurements were recorded. A Tennis Match ball throwing machine was used to throw balls at the stationary rackets, and a West Bend radar gun was used to measure the velocity after it left the racket. Metal rackets seemed to transfer less force than wood or composite rackets except when combined with stiff RF where the advantage was either non-existent or reversed. Stiff RF transferred more force to the arm than flexible or average flexibility. Nylon string transferred less force to the arm than gut string, and string tension results varied randomly and thus had no consistently obvious effect on force transfer. Little or no diff appeared between wood and metal rackets in producing a greater ball velocity (BV)—both were better than composite rackets. RF made no diff in ball velocity. Gut string produced a greater BV than nylon and it appeared that a lower string tension resulted in greater BV. String type was the only variable tested that was statistically sig (force measurements) where nylon string consistently transferred less force to the arm than gut string. The other 3 variables tested, composition, RF and string tension, provided inconclusive results concerning force transfer to the arm. String type was the only statistically sig variable for the BV data where gut string consistently produced a greater BV following ball-racket impact.

180. LOONEY, Marilyn Ann. Unweighted means and complete least-squares regression analyses of disproportionate cell data. Doctor of Physical Education, 1980, 146 p. (G. F. Cousins)

30 3 X 3 factorial designs representing diff combinations of cell size ratio, pattern of nonorthogonality, and pattern of sig hypothesized main effects and/or interaction were investigated. Each factorial design pattern was replicated 500 times. Data from each replicate were analyzed by unweighted means analysis and complete least-sq regression method. The proportion of row, column, and interaction hypotheses rejected were calculated for each method. The proportion of rejected true null hypotheses was the dependent variable for a series of 3 way ANOVA method, by cell size ratio, by pattern of nonorthogonality for each hypothesis of each sig effect pattern. Observed Type I error rates and power values were compared to nominal level of sig and nominal power, respectively. Type I error rates were comparable for complete least-sq regression and unweighted M analysis, and the majority of these error rates did not digress sig from .05. Power values were comparable for both methods when 2:1 cell size ratio existed. Power values were comparable when 4:1 cell size ratio with first degree of nonorthogonality existed, but they were sig less than .80. As cell size ratio increased from 4:1, complete least-sq regression had higher power values than unweighted M analysis.

181. LUEDKE, George C. Range of motion as the focus of teaching the overhand throwing pattern to children. Doctor of Physical Education, 1980, 141 p. (Clinton H. Strong)

The problem was to determine if an instructional emphasis on increasing the range of motion (IRM) in the overhand throwing pattern would result in sig diff in throwing velocity and form improvement. 11 overhand throw instructional tasks were designed and implemented in a 6 wk time frame on the basis of developmental, biomechanical, and cognitive research findings. Groups were formed from 800 ELE school children by stratified random sampling on the basis of: grade (2 or 4) form rating (ELE or mature), sex, and instructional type (none, NI; basic, BI; increased range of motion, IRM). All 144 Ss were evaluated on pretest and posttest throwing performance by analysis of radar and videotape measures of: stride length, arm retraction, side facing, trunk rotation, preparatory leg recoil, arm pattern, and stride opposition. Performance data were used to determine form changes resulting from instruction. Velocity score performance gains of 2nd graders were attributed to BI and IRM instruction. Benefits of IRM instruction included: arm retraction gains of 2nd graders, stride length gains of 2nd and 4th graders, and preparatory leg recoil of 2nd and 4th graders. Boys and mature (high) skill-rated Ss made the greatest stride length performance gains. A teaching focus on mechanics with an emphasis on IRM improved the overhand throwing patterns. Effectiveness of BI and IRM instruction in developing forceful throws was substantiated by 2nd grade radar velocity scores. IRM instruction was most effective in increasing stride length distances.

182. MAHMOUD, Helmi Hussein. The physiological and biomechanical effects of isotonic and isokinetic strength training programs on collegiate soccer players. Ph.D. in Human Performance, 1980, 267 p. (J. E. Wilkerson)
The intent of the study was to conduct a comprehensive physiological investigation of the changes which take place in the body composition, anthropometric measurements, cardiovascular endurance, power, muscular endurance, muscular strength, and soccer neuromuscular skills of male collegiate varsity soccer players following isotonic and isokinetic strength training programs. 25 soccer players from IU soccer team were randomly assigned to either isotonic or isokinetic strength training program. Performances were recorded before and after a 12 wk strength training program. The training program included 10 diff strength exercises, performing 3 sets each with (6 RM) for isotonic and (10 RM) for isokinetic, 3 days a wk for 12 wks. Descriptively, isotonic and isokinetic strength training methods improved L.B.M. (kg), R.V. (1), D.B. (g/ml), body diameters, and circumferences (mm), V_{O_2} max (1/min), the time for running 2 miles (min), O_2 debt (1/15 min), S.B.J. (cm), V.J. (cm), the time for running 40 yds (sec), muscular power (watt), muscular endurance, muscular strength, and soccer skills. The isotonic method improved muscular strength in 2 leg extension (kg) sig, while the isokinetic method sig improved in max aerobic capacity (V_{O_2} max ml/kg/min) and soccer skill in wall volley. Both isotonic and isokinetic strength training methods improved the physiological, biomechanical efficiency, and soccer skills of collegiate soccer players.

183. MCSWANE, David Z. A role delineation model for selected environmental health practitioners in the State of Indiana. Doctor of Health and Safety, 1980, 246 p. (B. I. Loft)

Using a jury of environmental health experts, a survey instrument was developed and pilot tested with 10 environmental health practitioners outside the study population. The instrument, consisting of a biographical questionnaire and duty statements with rating scales, was mailed to 150 randomly selected environmental health practitioners serving in regulatory capacities with official health agencies in IN. The practitioners were stratified according to state or local classes of agencies. The average environmental health practitioner was 40.4 yrs of age, had 11.1 yrs experience in environmental health, had held his present position for 6.5 yrs., had 1 or more college degrees, and had majored in one of the biological, chemical, physical, or environmental health sciences. There were 6 duties classified as critical for the technician, based on their being frequently or continuously performed and being of considerable or great importance and difficulty. The no. of duties classified as critical for the environmental health technologists and administrators was 18 and 8, respectively.

184. MILLER, Sue Ellen. Relationship between mobility level and positional concept development of visually impaired children. Doctor of Physical Education, 1980, 110 p. (Evelyn A. Davies)

Using 3 orientation and mobility specialists, a 7-pt Mobility Rating Scale was devised for the purpose of rating visually impaired children, ages 6 to 10, on their current mobility level. 39 Ss from the IN school for the Blind and the KY School for the Blind were given ratings 1 through 7 according to established criteria by orientation and mobility specialists and classroom teachers at the respective schools. The researcher then administered the "Hill Performance Test of Selected Positional Concepts" to each child. Intra-rater reliability co-efficients were used to determine reliability of the raters and Pearson r was used to determine the relationship between mobility level and position concept development. No sig relationship was found between mobility level and positional concept development of the visually impaired in this study. A great variety of mobility experiences should be provided early in the lives of visually impaired children. Exposure to problem-solving situations dealing with positional concept development would benefit the visually impaired child. Mobility experiences and experiences dealing with positional concepts should be addressed in all curricular areas including PE.

185. MOSTAFA, Aida. Leisure-time physical activities, attitudes, and participation rates of Indiana University alumnae. Doctor of Recreation, 1980, 273 p. (T. J. Rillo)

The study investigated the leisure-time physical activity participation rates of 4 age groups of IU female alumnae, whether there was a relationship between no. of participants and age and attitude of the selected alumnae toward both recreational activity and college programs which encourage or discourage post-graduate participation. A stratified random sample of 1600 alumnae consisting of 4 random samples of 400 females was drawn from the following sets of graduating yrs: 1946-1948, 1956-1958, 1966-1968, and 1976-1978. A modified version of the IN Leisure-time Physical Activity Participation Checklist and Likert technique of attitude measurement were the instruments selected for use in the study. The questionnaire was evaluated by a jury of 10 experts in the REC and PE profession, and was further validated through a study. The data were analyzed using various descriptive statistics, Gamma and the X^2 Tests of Goodness of Fit and Test of Independence. Out of 60 activities, only 4-badminton, bowling, golf and calisthenics-showed sig increases in participation as age increased. 8 activities showed sig decreases in participation as age increased. 20 of the 60 activities showed lifetime utility. The age of alumnae appears to influence their attitude toward participation in physical activity. It was concluded that the activities in which the alumnae participate were not learned in school. The older the alumnae, the less positive attitude toward leisure-time physical activity. Occupation is not a factor in the choice of physical activity.

186. NAVAR, Nancy Helen. The professionalization of therapeutic recreation in Michigan. Doctor of Recreation 1979, 239 p. (Theodore R. Deppe)

Included were 3 subproblems: to determine the structural status of professionalization; to determine the professionalism of therapeutic recreation (TREC) personnel; to determine if there was a relationship between selected personnel characteristics and the ° of professionalism of the TREC personnel. Hist analysis was used to determine the structural status of TREC professionalization. A validated survey instrument provided data related to attitudinal attributes of professionalism of 340 TREC practitioners. SPSS programs on reliability, frequencies, crosstabs, and regression were used to analyze the professionalism data. Frequencies, %, median scores, and X^2 were used to describe personnel characteristics and attitudinal attributes of professionalism. Multiple regression analysis was used to determine if the ° of professionalism was related to selected personnel characteristics. The majority of TREC practitioners in MI have attitudes indicative of a moderately high ° of professionalism. There is no relationship between the ° of professionalism and the selected personnel characteristics of educ, membership, registration status, and yrs of TREC experience. TREC could be classified as a "new" profession. Although TREC practitioners' attitudes are indicative of a moderately high ° of professionalism, their behavior is not indicative of strong professional activity. Selected personnel characteristics of educ, membership, registration, and yrs of TREC experience do not appear to influence the attitudes that a person has toward professionalism. A formal educ in REC or TREC does influence professional behaviors of TREC practitioners.

187. NEY, Walter. A scale for the assessment of attitudes of college students toward the use of selected chemical substances. Doctor of Health and Safety, 1979, 293 p. (Donald J. Ludwig)

The instrument was constructed in 2 parts: Sec 1, a questionnaire, sought demographic information and the extent 8 chem substances were used by students; Sec 2 was an attitude scale comprised of 100 items, built upon criteria extrapolated from the attitude list. Initial refinement of the instrument was facilitated by a pilot study. Field testing was done with Ss from 3 st. univ. campuses in IN. Data were processed by computer. Demographic and substance use data were used to determine sample validity. The scale was reduced in size to 39 items via factor anal and discriminant function anal. Statistical and logical anal were used to determine scale reliability and validity. Conclusions were drawn and other recommendations were made for the implementation of results and for other research. A demographic profile, typical of most college students, was observed.

Student reported substance use approximated that reported in other research. The final scale, comprised of 2 sub-scales, yielded a .9013 Cronbach Alpha coefficient. Content, Construct and Concurrent validity were reflected by the scale. The scale discriminated between group and sex attitudes toward the use of substances and toward users. The scale provides a valid and reliable measure of attitude toward the use of substances and toward users. The criteria used in scale construction enhanced the probability of scale validity and reliability. Women are more conservative than men in their attitudes toward the use of substances. There is little diff between sexes in attitude toward users. As frequency of substance use increases, attitude toward use become more liberal.

188. OIKEH, John Abiodun. Health superstition beliefs among southern Nigerian prospective teachers. Doctor of Health and Safety, 1979, 116 p. (William T. Brennan)

The following procedures were followed: identification and classification of health content areas, compilation of belief or superstition items; selection of pilot jurors; administration of items to pilot jurors; final items and content distribution; selection of Ss for the study; admin of the belief items; analysis of data. The data were analyzed to determine: diff in M scores, frequency of responses, summary variance of total scores, reliability of items, item r. Data were analyzed on 200 available prospective southern Nigerian teachers from 10 selected coll and univ in the U.S. The overall M for the items was 211.19, SD=23.92. The Alpha coefficient of reliability was .86. The range of item r was from .08 to .49. Ss believe in and subscribe to a reasonable amount of superstitions and misconceptions that might have some health implications irrespective of sex, level of educ, geographical place of birth, class standing, and field of study. The items used to elicit superstitious response Ss are valid and reliable.

189. OLECKNO, William A. Impact of the national interim primary drinking water regulations on community water systems in Indiana. Doctor of Health and Safety, 1980, 205 p. (William T. Brennan)

A questionnaire was mailed to the water system managers of 300 randomly selected IN community water systems (CWS) to determine their perceptions of the impact of the Interim

Primary Drinking Water Regulations (NIPDWR) on IN CWS. The instrument was pre-tested by jury review and a pilot study consisting of the managers of 20 CWS. Data concerning the relationship of system size, source of water supply, and system ownership to the reported impacts were analyzed by Gamma, X^2, and the contingency coefficient. In addition, frequencies, %s, measures of central tendency, and descriptive comparisons were used. The reporting requirements of the NIPDWR had the greatest % of impact on the CWS. The max contaminant levels had the least % of impact. Size of IN CWS was inversely associated with the % of reported impact for 2 out of 10 provisions of the NIPDWR. Source of water supply and system ownership were statistically related to the % of reported impact for 1 provision each. The % impact of the NIPDWR on Indiana CWS is of considerable practical sig, but knowing system size, source of water supply, or system ownership is of little value in predicting the actual % of impact on a particular CWS. These attributes, however, are of sig value in identifying important diff in system characteristics, impact of the NIPDWR, and managers' perceptions of the NIPDWR.

190. QUENNEVILLE, Gilles. Cognitive and motor performance in school orienteering. Doctor of Recreation, 1980, 267 p. (Thomas Rillo)

The cognitive and motor performances of children were examined with respect to school orienteering to gain insight into the learning process in school orienteering. Ss were 32 4th grade students randomly assigned to either the direct or conventional method of practice of orienteering, and posttests were conducted. The pre-post test design included a 9 min run-walk test for distance, a score orienteering test, a circuit orienteering test and a cognitive theory test on map reading skills as well as the Stanford Achievement Test. The major findings included sig reliability and validity coefficients for the score orienteering test, sig proportions of successful Ss in the circuit orienteering test, sig improvement on cognitive performance as a result of the treatments, a sig relationship between the score orienteering and the integration of cognitive and motor performance and, a non sig diff between groups at the end of the treatments. The beginners course, using either of the 2 methods, is valid. The conventional and direct methods are equally effective. The Score Orienteering Test is a reliable and valid instrument for measuring performance on map reading skills. Success in school orienteering depends on being able to integrate cognitive and motor performance. Doing well in school skills is not a prerequisite for being a good school orienteer.

191. RADOVICH, Frank Raymond. A descriptive study of health instruction programs in Georgia Public Schools, Grades 8-12. Doctor of Health and Safety, 1979, 151 p. (D. J. Ludwig)

Following selection and modification of a HE instruction instrument and refinement of the instrument by a jury of experts, a pilot study was conducted to determine the estimated reliability of the instrument. Data were collected from 100 participating public schools which met the delimitation of this study. The stratified random sample selection technique was used to select the participating schools. The responses were tabulated and the data analyzed and interpreted relating to the 6 categories of the instrument: organization and administration, discrete course, integration, combined course HE instruction program, and HE instruction personnel. The planning of HE instruction and teaching of HE involved school personnel not possessing educational backgrounds in the area of HE. School curriculum committees, HE teachers and the St. Dept. of Educ. were utilized most frequently when a HE curriculum guide was prepared. School lunch programs, safety and HE committees, and assisting in the lunchroom were the primary activities used outside the classroom for developing student leadership in HE activities. The discrete HE course was the primary method of scheduling HE instruction to meet the St of GA HS graduation requirements. HE instruction when integrated or combined with other courses does not receive prime consideration.

192. RASHAD, Nadia Mohamed. The menstrual cycle and accident causation during participation in sports activities. Doctor of Health and Safety, 1979, 142 p. (Bernard I. Loft)

Data were collected by 2 instruments developed by the investigator. The accident group consisted of 150 I.U. female students involved in 1 accident during participation in sports activities in the previous yr. Sources of data were the I.U. Student Health Service and accident reporting system in the I.U. School of HPER. The nonaccident group consisted of a random sample of 200 I.U. female students having no accident during sports activities in the previous yr. A source of data was the I.U. Telephone Dir 1978-1979. X^2 test of sig was applied to test the hypotheses. No sig diff was found among menstrual cycle phases and no. of accidents, between Ss with regular and Ss with irregular menstrual cycle, and between Ss using medications to relieve menstrual pain and Ss not using medications. A sig diff was found between Ss experiencing menstrual pain and Ss having no pain, and between Ss using birth control pills and Ss not using the pill. Menstrual cycle phases, menstrual cycle regularity, menstrual pain, and the use of medications to relieve menstrual pain tend to have no effect on accident causation during sports activities. Participation in sports activities tends to improve menstrual cycle disorders. Ss not using birth control pills tend to have more accidents than Ss using the pill. Information contained in this study could be used for potential teaching units in H&S and PE. Findings of this study should be communicated to coaches, PE teachers, and AT.

193. ROSS, Craig M. Relationship between occupational prestige and leisure participation patterns of selected employees in Indianapolis, Indiana. Re.D. 1980, 226 p. (T. R. Deppe)
A systematic sampling procedure was used to obtain a sample group of 1,225 adults who were employed in full-time occupations. The sample was divided into 4 occupational prestige levels using Treiman's Standard International Occupational Prestige Scale. A preliminary survey instrument was developed by the investigator and reviewed by a 6 member jury of experts. The questionnaire was revised and pilot-tested by 20 employees representing the 4 prestige levels. A total of 638 questionnaires was returned for analysis purposes using the Chi-Square Test of Independence conducted at the .05 level of sig. Individuals from the highest occupational prestige level were the most active participants in the leisure-time activities. Most individuals were content with their current level of participation. The degree of satisfaction decreased as occupational prestige decreased. Socio-economic variables pertaining to prestige levels had no sig effect on leisure participation.

194. SCHABEL, Frank Edward. The effect of an antihistaminic drug on psychophysical driving skills. Doctor of Health and Safety, 1979, 93 p. (B. I. Loft)

The problem was to analyze the effect of an antihistaminic drug, triprolidine, on 2 selected psychophysical driving skills: performance time and hand-eye coordination. A pursuit rotor with a digital stop clock and a multi-choice RT were used to investigate hand-eye coordination and performance time. After a pilot study of 8 Ss it was determined to test the 42 randomly selected volunteers on the best 5 of 10 trials on performance time and 3 pursuit rotor trials of 30 sec in length. Ss were randomly selected into 2 groups (N=21) and tested over 2 days while alternating the treatments of drug and placebo. On day 1 group 1 had the placebo and group 2 had the drug and on day 2 the groups received the opposite treatment. This crossing over of treatment on different days controlled the learning factor error in the investigation. The ANOVA of the cross-over design data revealed that no sig diff occurred when Ss were tested on the drug as compared to when they were tested on the placebo on skills of performance time and hand-eye coordination. Learning was found sig across trials and sig was found in the skill variability of Ss. The antihistaminic drug, triprolidine, did not statistically alter psychophysical skills of performance time and hand-eye coordination. Learning through repetitious trials was apparent as was the obvious existing diff among Ss' ability to perform on testing apparatus.

195. SCHRAIBMAN, Carl Forbes. Physical education instructional programs in the public high schools in Ohio. Doctor of Physical Education, 1979, 183 p. (C. H. Strong)

Permission was granted to revise a questionnaire developed in 1968 and also to include selected items from a 1955 study of OH PE. After a tenative revision, review by a jury of experts, and a pilot study, the finalized questionnaire was mailed to the principal of each of the 751 public SHS in OH. Data from the 401 Ss found fit for inclusion in the study were transferred to computer key punch cards for analysis. It was found that membership in both AAHPERD and OAHPERD was greater among female PE teachers. Physical fitness was considered the most important student outcome of the instructional PE program. The most crucial problem confronting OH SHS teachers of PE was student motivation and discipline. Of the top 15 activities offered in OH SHS, volleyball, softball, and basketball dominate as the most popular activities in boys-only and girls-only programs.

A shift toward individual/dual activities was noted in these programs for the 11th and 12th grades. While volleyball and softball were the most popular activities in coeducational programs at all 4 SHS grades, an emphasis toward the inclusion of individual/dual and non-team sports activities was noted beginning at the 10th grade. Professional membership is not important to the majority of PE teachers in the public SHS of OH. Lifetime sports activities are emphasized most often in those SHS which have coeducational PE programs.

196. SCHROEDER, Timothy D. The relationship of per capita parks and recreation expenditures to suburban residential real estate value. Doctor in Recreation, 1980, 105 p. (W. Donald Martin)

The relationships of property value to expenditures for different functions of parks and REC services, to different sources of funding, and to the acreage of park land per 1,000 population were examined. The Ss consisted of 566 residential properties sold during 1979 and located in randomly selected quarter sections of DuPage Co., Ill. The Ss were located in the jurisdictions of 27 local parks and REC agencies. Data were collected on 20 variables relevant to sales price, structural characteristics, location size, and parks and REC services associated with each property. Analysis was completed using the multiple regression sub-routine of the SPSS computer program. When regressed with the logarithm of sales price, 7 independent variables were found to be sig in the development of the basic property value model. An R^2 of .6752 was obtained. Adding the logarithm of the per capita expenditures for parks and REC to the model resulted in a sig increase in R^2. When this finding was cross-validated against another sample, however, there was a non-sig increase in the r. Neither the untransformed version nor the logarithmic transformation of the variable measuring acres of park land per 1,000 population added sig to R^2 when added to the basic property value model.

197. SCHROTH, Richard J. Effects of local government structure on budgetary procedures of municipal park and/or recreation depts. Doctor of Recreation, 1978, 241 p. (T. R. Deppe)

The study sought to determine if there was sig diff among selected govt. units when related to their practices of budget planning and preparation, budget presentation and adoption, and budget administration and control in municipal park and/or REC depts. The basic procedures used were: a jury of experts to aid in the selection of study variables and design of the survey instrument, pre-test and pilot testing of instrument, administration of instrument to a random sampling of 339 local govt. and stratified within 5 govt. types. Data analysis was conducted through use of X^2, Cramer's V and descriptive statistics. Sig diff do exist among forms when related to the effects they have on budget preparation, presentation-adoption, and admin. and control. Special district govt. forms tend not to experience many of the problem areas facing other govt. forms. Individual citizens and special-interest groups appear to have no major effect on the adoption of the park and REC budget. Of the most common federal programs, the Land and Water Conservation Fund was shown to be the most difficult to administer. The trend of boards or governing authorities was to cut new program requests in both the Capital Improvements Program and in the Operating Budget. The budgetary area of Capital Improvements was shown to be the area where most attention is focused and the area where the greatest frequency of budgetary cuts occur. The major problem is to deal with the additional financial requirements brought on by emergency situations.

198. SHOEMAKER, Layton. Intercollegiate athletic management in selected Christian colleges. Doctor of Physical Education, 1980, 200 p. (John B. Daugherty)
A survey instrument dealing with athletic management policies, practices and procedures was developed using ideas from previous studies. The instrument was examined by a jury of experts who had athletic administration experience in coll like the ones being surveyed. The instrument included 9 areas of investigation related to the athletic management process. Information and data were collected in conjunction with the personal interview technique, and analyzed through descriptive statistics. 11 colleges included in the study were those eligible for membership in the Natl Christian Coll Athletic Assoc. None of the institutions' athletic depts had developed a policies manual. There were no common factors in the adjustment of faculty teaching loads to compensate for coaching responsibilities. Each S appeared to be experiencing difficulty handling the inflationary strain. Gate receipts were not a big factor.

Financial Aid (grants) was limited and did not appear to be a sig factor. Publicity was not a high priority item. The athletic management process is not structured on the basis of currently recognized management principles. These Ss should devote more attention to creative methods of broadening financial support for their programs. The NCAA has not been creative in administering athletic affairs for small Christian colleges.

199. SHORT, Francis Xavier. A comparison of pursuit rotor transfer by educable mentally retarded and normal children. Doctor of Physical Education, 1980, 91 p. (Evelyn Davies)

The problem was to determine if children who were labeled EMR transferred equivalent amounts of learning when compared to a similarly aged normal group of children on a tracking task that required eye-hand coordination. Ss (N=30) were selected from classes for the EMR in the Monroe Co Comm School Corp., Bloomington, IN. A stratified random sampling procedure was used to select 30 normal Ss. Ss were matched on the basis of sex, school attended, and as closely as possible, age in mos. Only Ss who had returned permission slips were included in the study. All Ss received 20 trials on a Lafayette photoelectric pursuit rotor with a target speed of 35 RPMs. All trials were 20 sec in length with a 20 sec intertrial rest period. A 60 sec rest period was given between blocks of trials (5 trials to a block). Performance was measured as time on target (TOT) by a standard electric clock calibrated to .01 sec. Following the 20 practice trials, the target speed was changed to 20 RPMs and all Ss received an additional 5 trials. Data were analyzed using repeated measures ANOVA and multiple regression techniques. Normal Ss made sig higher scores than EMR Ss on the measure of transfer. Age was found to have a similar effect for each group. EMR children appear to be more restricted in their ability to transfer motor learning than normal children. This relative diff would appear to be independent of unequal opportunities for practice diffs in initial ability, or age between 8 and 11 yrs.

200. SMITH, Sarah Lynn. Comparison of selected kinematic and kinetic parameters associated with the flat and slice serves of male intercollegiate tennis players. Ph.D. in Human Performance, 1979, 120 p. (John M. Cooper)

Kinetic factors included ball and racket velocities, angle of ball projection, position of racket face at racket/ball contact, location of total body center of gravity (COG), and timing of the wt shift changes. Temporal periods for various aspects of the service action were also determined. Kinetic analysis was concerned with the vertical ground reaction force exerted by the server during the forward swing. Peak force and impulse values were determined. The relationship between total body COG and selected positions of the ball during the tossing component of the service was studied. Male tennis players (N=5) with intercollegiate playing experience were filmed at 250 fps with a LOCAM camera using B&W film (Kodak 2498). Each S served while standing on a 4 ft. sq. force platform. A min of 2 trials of each type of serve was recorded. Additional trials were required of those Ss who failed to execute a legal serve to the right service court within the min no. allotted. Serve placement was recorded and was the basis for selection of the 5 flat and 5 slice serves. Those serves landing in the service court closest to the service line were selected for analysis. Film and force recording data were matched on a time basis to the nearest .01 sec. Comparison of M values for all measures between the flat and slice serves warranted the following conclusion: the largest diff between the 2 types of serves were observed in terms of ball velocity, racket face position at contact, and distance between total body COG and front toe of the server at contact.

201. SPACHT, Roger J. The relationship between environmental concern and a selected high adventure program. Doctor of Recreation, 1980, 133 p. (W. D. Martin)

The problem was to investigate the relationship between the level of environmental concern and selected variables of race, sex, type of SHS program, age cum GPA, type of school, and length of the adventure program. Ss (N=92) SHS aged (13-18), took part in an existing high adventure program lasting either 3 or 5 days. The program at S.I.U. Underway Program utilized at least 3 adventure activities in a wilderness program. The device used to collect data for testing was Weigel and Weigel's Environmental Concern Scale applied immediately before and after the adventure program. The Friedman's ANOVA was used to test the main hypothesis. The K-Sample Median Test was used to test secondary hypotheses. There was sig relationship between improvement in levels of environmental concern and participation in a high adventure activity. Sig diff in changes in level of environmental concern was apparent when considering age and type of school the Ss attended.

202. SUMMERFORD, Christine F. Reaction time tests to determine activities and vocations for mentally retarded and epileptic individuals. Doctor of Physical Education, 1979, 88 p. (Evelyn Davies)

Monroe and Lawrence Co. public school students who met the delimitations of this study were selected as Ss. 57 Ss completed 8 days of simple RT testing. The M test scores for the last 3 days were found to be the most reliable, and were used for statistical analyses by ANOVA. TMR individuals and TMR individuals subject to epileptic seizures had a sig slower simple RT than those with average intellectual ability, average intellectual ability who were subject to epileptic seizures, EMR and EMR individuals subject to epileptic seizures. A sig diff in simple RT was not found to exist among those with average intellectual ability, average intellectual ability who were subject to epileptic seizures, EMR and EMR individuals subject to epileptic seizures. Individuals subject to epileptic seizures and individuals not subject to epileptic seizures within the same intellectual groups were not found to differ sig in simple RT. TMR and TMR individuals subject to epileptic seizures should not be expected to perform well in PE activities and vocational pursuits that require fast RT. In PE activities and vocational endeavors requiring fast RT, individuals subject to epileptic seizures should be able to perform as well as their mental counterparts not subject to epileptic seizures.

203. TOLSMA, Brant C. Leg dynamics of maximum speed sprinting. Doctor of Philosphy in Human Performance. 1979, (John M. Cooper)

This investigation was to identify the motion and torque patterns of the leg in max speed sprinting, to determine which variables are most important to the development of fast sprinting ability, and to suggest specific emphasis areas for training. College and post-college track and field athletes (30) with sprint training backgrounds were filmed at 200 fps as they individually sprinted at max speed across a 4' X 4' force platform. The 4 segmental endpoints of the right leg were digitized from every frame in a full stride cycle including force platform contact. These data were mathematically smoothed against time and linear velocities and acclerations of segmental endpoints and angular velocities and accelerations of leg segments were determined from successive derivations of the smooth equations. From this information, using Dempster's leg segment mass, center of gravity, and moment of inertia data and from the ground force recordings, the torque variations at the ankle, knee and hip joints were computed through the full stride cycle from the 3 basic equations of 2 dimensional motion. The torque patterns at the leg joints showed the dominant muscular activity during each phase of the stride. Specific weaknesses and faults of individual runners were identifiable from the torque patterns. At several points in the stride the dominant muscular activity at the hip or knee joint was opposite to that desired for fast motion because of the effects of the 2 joint muscles of the thigh. There was no sig peak leg joint torque r with running velocity.

204. WELLER, Margaret Ann. Services supportive to leisure pursuits of rural elderly in two counties in Indiana. Doctor of Recreation, 1980, 290 p. (J. MacLean)
Questionnaires were developed for the agencies and the rural elderly. Data were collected from 76 of 180 questionnaires sent to the agencies. Responses were tabulated and a comparison was made between the counties. The data related to the demographic and organizational facts about the agency and the agency's awareness of, need for, or provision of services supportive to the leisure pursuits of the elderly. A questionnaire was sent to a random sample of 575 rural elderly in 2 counties. The data were collected from 197 persons. A comparison was made between the rural elderly in the 2 counties. The data related to demographic information, awareness of, availability of, use of, and need for services, especially services supportive of leisure pursuits. The majority of the agencies provided programs, mainly religious or educational, to all age groups. The county with the metropolitan area had more resources than did the county with no metropolitan area. Neither the agencies nor the rural elderly were aware of or knowledgeable about the supportive services provided in the county. The rural elderly population had not been a target group for programs, supportive service, or leisure experiences provided by the agencies in the two counties.

205. YEAGER, Susan Anne. Performance rhythms of skilled gymnasts in the teaching of gymnastics skills to novices. Doctor of Physical Education, 1980, 125 p. (J. M. Cooper)

The general rhythmic patterns of specific gymnastics skills performed by accomplished gymnasts were identified and used as teaching aids for beginners attempting to learn the same skills. 5 I.U. gymnasts and 1 beginning gymnastics class served as the skilled performers and novices, respectively. The beginners were randomly divided into 2 groups. Ss were videotaped during the treatment period as they attempted to learn a straddle vault, headspring, and back hip circle. There were no sig diff found between groups in their speed of learning. Comparable numbers of Ss in each group learned the vault and headspring. 35% more exp group members than control members learned the back hip circle. The 3 skills were found to vary in degree of difficulty. The pretests were not beneficial in predicting Ss' learning successes. At least 1 pretest factor for each skill was identified as being responsible for some degree of that skill's variance. It is possible to identify skilled athletes' performance rhythms and to use them as teaching aids. However, the use of these rhythmic patterns of the skilled gymnasts does not enhance the learning of gymnastic skills by beginning gymnasts.

KANSAS STATE UNIVERSITY (C. B. Corbin)
MANHATTAN, KS

206. CHMIELOWICZ, B. Effects of social facilitation and social comparison on the performance and self-confidence of females performing a male oriented task. M. S. in Physical Education, 1980, 72 p. (C. B. Corbin)

207. GEARHART, A. Characteristic profile of female volunteers in therapeutic settings. M.S. in Recreation, 1980, 60 p. (D. Lindley)

208. MOYER, B. Effects of diet therapy, behavior modification, and exercise in weight reduction and body composition. M. S. in Physical Education, 1980, 108 p. (W. B. Zuti)

209. PEMBERTON, C. Consolidation theory and the effects of stress and anxiety on motor behavior. M. S. in Physical Education, 1980, 42 p. (R. Cox)

LAKEHEAD UNIVERSITY (B. S. Rushall)
THUNDER BAY, ONTARIO

210. COLYER, Phil. A study of the effects of training and interruptions in training upon cardiorespiratory and anthropometric measures in collegiate wrestlers. M. S. in the Theory of Coaching, 1980. (T. M. K. Song)
Wrestlers (N=11), who were members of the 1978-79 Lakehead University Wrestling Club, served as Ss. A repeated measures design was used during an 18 wk training period. Resting HR, BP, pulmonary function, and skinfold thickness were measured 5 times at the beginning of each month. A one-way ANOVA indicated that interruptions in training, due to examinations and Christmas holidays, did not result in a sig change in any of the measured variables. Sig ($p < .05$) training effects were observed in a number of variables.

211. KAN, Brian Luk-Ming. A comparison of the on-hand and off-hand straight spikes in volleyball. M. S. in the Theory of Coaching, 1980. (B. S. Rushall)
The purpose of this study was twofold: to examine the diffs between the on-hand side and off-hand side spikes in volleyball in terms of velocity and accuracy, and to evaluate the relationship of the angle of projection with velocity in each spike. Ss (N=12) were members of the 1979-80 University of Alberta Volleyball Team. The research design employed a repeated measures technique with two variables, the on-hand and off-hand spikes. Ss were required to perform 20 straight spikes for each technique. The velocity and the angle of projection data for each trial were obtained by cinematographical analysis. Accuracy scores were collected by direct recording after each trial. A correlated t test was used to determine the diffs in velocity and accuracy between the on-hand and the off-hand spikes. r was used to assess the relationship between the velocity and the angle of projection of each spiking technique for each S. A further correlated t test was used to determine diffs in relationship between the on-hand and off-hand spikes. Diffs between the on-hand and off-hand spikes, in terms of velocity and accuracy, were sig ($p < .05$). There was no relationship between velocity and angle of projection for the on-hand

spike but a low sig r was found for the off-hand spike. The diff in relationship of velocity and angle of projection between both spiking techniques was not sig. Several recommendations for future researchers in this area were offered.

212. SELKIRK, R. V. The effects of cognitive strategies on running performance. M. S. in the Theory of Coaching, 1980. (B. S. Rushall)
The independent variables were 4 forms of cognitive strategy presented to each of the 2 trained endurance runners who served as Ss. The dependent variables were the length of time that each S performed at constant effort and intermittent HRs during performance. The order of the treatment conditions was randomly selected from six 4 x 4 Latin squares. ANOVA revealed that no single treatment condition was superior to another. An orthogonal comparison revealed a sig diff ($p < .05$) in performance with a planned cognitive strategy as compared to an unaided condition. The performance of 8 older and more successful runners was analyzed. No sig treatments effect was revealed. 19 Ss ran his/her best under a planned strategy (imagery manipulation, task specific, and/or voluntary distraction). 2 Ss ran his/her best under an unaided condition. On posttest and post-experiment questionnaires Ss indicated the following: an awareness of which strategy prolonged his/her performance best, an ability to concentrate on the assigned strategy, that the experience was painful and a preference for the voluntary distraction strategy. Although the voluntary distraction strategy was preferred, more best performances occurred under the task specific strategy. Pretest expectations to do well or poorly did not seem to affect performance.

LOUISIANA STATE UNIVERSITY (J. Nelson)
BATON ROUGE, LA

213. AUSTIN, Martha H. The effects of a sex-referent score on the expectancy level and performance of elementary children. M. S. in Physical Education, 1980, 49 p. (A. Lee)
Ss, 160 boys and girls, were assigned to 4 groups, each with 10 boys and 10 girls from the 3rd and 5th grades. Gp 1 was given the "average" score for boys; Gp 2, the "average" score for girls; Gp 3 was given an "average" score (no-sex reference) and Gp 4 was given no score. The score provided

was the same for all gps. Ss were then asked to estimate and perform 2 tasks: a ring toss and a timed side-to-side jump over a rope. The results of MANOVA yielded no effects of a sex-referent score on the estimation or performance of boys and girls on the 2 motor tasks. Boys outperformed girls on the ring toss and girls were sig better on the rope-jump task. Expected age differences were also evidenced.

214. GALLAGHER, Jere D. Adult-child motor performance differences: A developmental perspective of control processing deficits. Ph.D. in Health, Physical and Recreation Education, 1980, 364 p. (J. Thomas)

What the adult does during the intertrial interval that the child does not to process information was investigated in this series of studies. Representative ages chosen due to a diff in the utilization of control processes were 5-, 7-, 11- and 19-yr olds. The initial study indicated that kinesthetic information is equally available to adults and children prior to processing. The second study suggested that when forced to recall increasing movement series the younger children were at an ever increasing disadvantage. The next 2 studies investigated the developmental usage of the control processes of organization and rehearsal. Additionally, it was determined if the young child's performance would be facilitated if forced to utilize the control processes. The results of the organization study indicated the inability of the 5-yr olds to utilize the organizational cues when available or to restructure the information. The 7-yr olds utilized the organizational cues when available but failed to transfer the strategy to a new task when the information was not given in an organized manner. The 11-yr olds transferred the organizational strategy but failed to restructure the unorganized information initially. The 19-yr olds did restructure the information even when not given organizational cues. The rehearsal study indicated the advantage of forcing a child to rehearse in an adult-like pattern (rehearsing in groups of threes to determine the organizational pattern). The younger children forced to utilize the adult-like strategy did not differ in performance from the older children and adults who were forced to use a child-like strategy (rote rehearsal). The general conclusions suggested the superior performance of the older children and adults was not due to the initial availability of the information but an increased ability of the Ss to utilize control processes of organization and rehearsal.

215. HILL, Leonard Max. A film analysis of motor pattern development of educable mentally retarded children. Ed.D in Physical Education, 1980, 272 p. (A. M. Lee)

The standing long jump, place kick, overarm throw and striking patterns of educable mentally retarded (EMR) children (N=11) were compared to the mature patterns of highly skilled adult Ss. It was also the purpose of the study to determine whether these same motor patterns were inherent in EMR children and would therefore emerge naturally in a goal-centered teaching-learning environment. The EMR children were filmed while performing the selected skills before and after participating in a goal-centered teaching-learning treatment environment. 2 university varsity athletes were filmed in order to establish the mature patterns of the skills. The final patterns of the EMR Ss were analyzed and compared to the mature patterns. The initial patterns of the EMR Ss were also compared to their final patterns to determine pattern changes. It was found that the patterns of the EMR Ss were immature and executed in an inefficient manner when compared to the mature patterns, and that the patterns of the EMR Ss did not change as a result of their participation in the goal-centered teaching-learning environment.

216. HOPKINS, Patricia L. The physiological effects of swim team training. M. S. in Physical Education, 1980, 101 p. (R. A. Byrd)

The study investigated selected physiological adaptations of 18 college females to a competitive swimming training program. 4 evaluations were made during the season on the swimmers and on 19 control Ss. The following parameters were measured: supine resting heart rate (HR) and blood pressure, vital capacity (VC), 1-sec forced expiratory volume (FEV$_{1.0}$), max breathing capacity (MBC), arm strength, vertical jump as a power measure, HR during submax exercise, and body composition. A group by test factorial MANOVA, ANOVA, and Wilks' Lambda Test Criterion were used to analyze the data for all variables except exercise HR, which employed a group by test by workload design. Sig changes ($p<.05$) were found in swimmers' arm strength, power, VC, MBC, resting and exercise HR, and body composition. Blood pressure and FEV$_{1.0}$ were unchanged. Progressive training methods, followed by a late season tapering process, produced peak performances at the season's culmination.

217. LAZARUS, June Alice. Suite Abraxas. M. S. in Dance, 1980, 59 p. (T. Worthy)

A 15 min suite of 3 original dances was choreographed using as thematic motivation 3 statements about dancers and their art form. The 3 themes, "Joiner", "Satori" and "Escapement," were chosen to reflect the need in dance for intellectual flexibility and receptivity, perceptive observation for added meaning and enlightenment, and the exuberance and freedom of self-expression. The dances were choreographed for 1 male and 5 female dancers and used music entitled "My Johnny was a Shoemaker" by Renbourn, "Eleventh Commandment" by Mangione, and "Old Dances" by Bartok. The choreography was presented publicly and was determined to be aesthetically valid based on the results of a panel's ratings using a scale developed by Worthy (1977).

218. MARINOFF, Joseph M., Jr. Development processing differences in ability to estimate error in motor performance. M. S. in Physical Education, 1980, 144 p. (J. R. Thomas)

The theoretical existence of a relationship between information processing capacity and an individual's ability to detect and correct movement error based on age diffs was examined. Ss were males, ages 7- and 11-yrs and adult (N=120), and were equally divided by age during learning, KR trials 1-16 (N=40). These groups were then randomly divided into either an error estimation group or a no estimation group during the remaining KR trials 17-31 (N=20). Ss from these groups were randomly assigned (the groups were split) during retention, KR withdrawal trials 32-47 (N=10). Groups were those who continued error estimation/no estimation, or those who began error estimation/no estimation. A ballistic task, moving a near-frictionless handle 40 cm to the left in 400 msec, was used as the motor task. AE, CE, VE, and |CE| were analyzed using MANOVA and ANOVA techniques during the learning and retention phases. Recognition performance was examined using correlations between actual and estimated CE scores. Age effects were evident during both phases, and performance increased during learning. Results oppose the development of an error labeling system posed by Schmidt's schema theory; specifically the notion that performance is maintained when KR is withdrawn following a well-learned task. A relationship exists between developmental information processing ability and development of the error labeling schema. However, the effect of this ability on performance could not be shown.

219. PARKER, Philip W. The golden hurricane: Jonesboro High School athletics 1969-1979. M. S. in Physical Education, 1980, 163 p. (H. E. Fant)

Each sport in the athletic program during the 1970's at Jonesboro SHS, Arkansas, was studied, and the effects of related factors on the program were analyzed. Primary sources of information included the local newspaper, a statewide newspaper, school annuals, interviews, tax records, budgets, and data from the Arkansas Activities Association. Community support for athletes increased during the 70's, and it was concluded that winning and losing had a sig effect in this respect. Part of the growth and success of the athletic programs was attributed to reorganization of the school system and the realignment of conferences and schedules.

220. TATUM, Susan Renee. Parental child-rearing practices and self-actualization tendencies of high school female athletes and nonathletes. M. S. in Physical Education, 1980, 59 p. (A. Lee)

30 female SHS athletes and 30 female SHS nonathletes were administered The Personal Orientation Inventory to assess self-actualization, and their parents were given the Maryland Parental Attitude Survey to determine disciplinarian, indulgent, protecting and rejecting child-rearing practices. No sig diff was found in self-actualization between the athletes and nonathletes. The only sig diff among the parents' responses were greater indulgent child rearing practice scores of the nonathletes' parents.

MIDDLE TENNESSEE STATE UNIVERSITY (P. McClellan)
MURFREESBORO, TN

221. CLINE, Herbert B. III. An assessment of need for a N.A.T.A. athletic training certification program for Middle Tennessee State University, 1980, 147 p. (J. MacBeth)

222. HUSSEIN, Hamid Hussein. The effects of a structured physical activity program on the physical fitness and self-esteem of trainable mentally retarded (TMR) individuals. 1980, 71 p. (J. MacBeth)

223. LANDRETH, Carolyn E. An investigation of professional periodical reading habits of women athletic directors in selected four-year southeastern colleges and universities. 1980, 109 p. (R. Ballou)

224. SHEMWELL, James A., Jr. Validation of the James-Lowell Racquetball Test: A skills and ability test for use in instructional racquetball. 1980, 107 p. (J. MacBeth)

225. SHOUN, Peter W. An evaluation of the physical education programs in the four-year institutions of higher education under the control of the Tennessee State Board of Regents. 1980, 159 p. (G. Reeder)

226. SILBERSTEIN, Mordechai. A study to determine the applicability of an electronic apparatus to teaching in physical education. 1980, 117 p. (R. Ballou)

MONTCLAIR STATE COLLEGE (R. K. Arnold)
UPPER MONTCLAIR, NJ

227. BROWN, M. The effect of stimulus distance and stimulus velocity on coincidence-anticipation ability. M. A. in Physical Education, 1980, 73 p. (R. K. Arnold)

The separate and combined effects of stimulus velocity and stimulus distance were shown to sig affect coincidence-anticipation accuracy. Ss were right-handed, female students (N=36) from Montclair State College. The exp task involved depressing a switch coincident with a flashing light at a designated intercept point. The speed of the lights and the length of track over which the lights flashed were counterbalanced over treatment conditions (40, 60 and 80 mph and 60, 90 and 120 in). 36 test trials (3 at each speed and distance combination) were administered to each S. 3 measures of response error were obtained; VE, CE and DE (distance error). ANOVA with repeated measures on both factors showed that both CE and DE increased when stimulus velocity increased, F = 72.208, ($p < .001$) and F = 164.082, ($p < .001$), respectively. In addition, increases in CE and DE were observed when stimulus distance decreased, F = 62.240 ($p < .001$) and F = 705.879, ($p < .001$), respectively. Viewing time (VT), a function of stimulus velocity and stimulus distance, also affected coincidence-anticipation accuracy. As VT decreased CE and DE increased. There was no sig diff in response variability among treatment conditions.

NEW YORK UNIVERSITY (R. A. Weiss)
NEW YORK, NY

228. CRAFT, Diane H. The effect of prior exercise on cognitive performance tasks in hyperactive and normal children. Ph.D., 1980, 134 p. (R. A. Weiss)
The purpose of the study was to determine the effects of varying durations of prior exercise on the cognitive performance of hyperactive and normal children. Ss were boys, ages 7 to 10, with IQ scores above 80. The hyperactive boys were selected based on high Abbreviated Conners Teacher Rating Scale scores. A repeated measures design was used. Every boy received each of the 4 treatments (0, 1, 5 and 10 min. of exercise on a bicycle ergometer) in a randomized order, followed immediately by the cognitive performance tasks. These tasks were the Digit Span and Coding subtest of the WISC-R and the Visual Sequential Memory subtest of the ITPA. The data were analyzed by ANOVA. No sig diffs were found between varying exercise durations and cognitive performance scores for hyperactive or normal boys.

229. GOODMAN, Mark S. A survey of the relationship of selected situational and personal variables to the performance of physical educational chairpersons in institutions of higher education. Ph.D., 1980, 137 p. (Stanley F. Pechar)
An exploratory, survey analysis was done reviewing the performance of college PE chairpersons, as perceived by their faculty members, their administrative staff and themselves, and relating the perceived performance ratings to selected situational and personal variables. The population included 38 colleges and universities from the Greater New York Area, (76% of the target population). Approximately, 54% (N=393) of all faculty members, administrators and PE chairpersons returned the survey instrument. A 47 item Likert-type questionnaire was developed and subjected to 5 forms of test validity and reliability. Data were analyzed using ANOVA and PPMC. The strongest relationship was found between performance on the maintenance factor and years in present position as chairpersons. Other sig relationships were revealed. Descriptions and comparisons among the chairpersons were disclosed and discussed with the aid of standardized personnel profile sheets, as well as with descriptive charts.

230. LOUGHLIN, William T. The role of augmented knowledge of performance in the form of movement process correction in the acquisition of a motor skill. Ph.D. 1980, 128 p. (R. A. Weiss)

The purpose of this study was to determine if movement process correction provided during the acquisition of a target/projectile task, the tennis forehand drive, facilitates acquisition because of its function as "information" or "reinforcement". Ss were randomly assigned to 1 of the following groups: random movement process correction, relevant movement process correction, and no movement process correction. Each group received 1 instructional session and then had 2 successive days of practice. On each day each S hit 6 blocks of 10 tennis balls pitched by a machine, for a total of 120 trials. Each block of trials was scored using the criteria of the Hewitt test for the forehand drive, and the data were analyzed using a repeated measures ANCOVA. A sig trials effect was found, but there were no sig diffs found for groups or interaction.

231. SOLYMOSI, Frank. An investigation of the relationship between measures of kinesthesis and selected performance in beginner skiing. Ph.D., 1980, 105 p. (Stanley F. Pechar)

The kinesthetic sensitivity of Ss was measured by 9 kinesthesis tests, previous to 12 hrs of ski instruction. After the ski instruction the amount of learning was measured by the criterion test. The relationship between ski learning ability and kinesthetic sensitivity was determined by a multiple regression analysis. A strong relationship was found between the 2 variables (R = .91). Also a short battery of tests for predicting ski learning ability was computed by stepwise regression analysis. The assumption that extremely strong or weak legs are an obstruction to ski learning was supported by a one-way analysis of leg-strength vs ski-learning ability.

NORTH CAROLINA CENTRAL UNVERSITY (Ross E. Townes)
DURHAM, NC

232. ARMSTRONG, Carlotta B. Health care technicians' attitude toward physical education. M. S. in Physical Education, 1980, 56 p. (Ross E. Townes)

The Wear Attitude Inventory was administered to 100 health care technicians (M age 33), average length of service 83 mos, at Murdoch Center in Butner, NC. Results showed that both male and female technicians rated the social contribution of PE highest and the mental contribution lowest. There was no sig diff ($p > .05$) between the males and females with regard to the contribution of PE. There was a positive relationship between the age and attitude, and length of service and attitude of these health care technicians at Murdoch Center.

233. BALLANCE, Margaret J. Administrators', teachers', and students' attitudes toward physical education. M. S. in Physical Education, 1980, 60 p. (Ross E. Townes)

25 administrators, 50 teachers and 100 students in the Bertie County School System in NC were given the Wear Attitude Inventory. There was no sig diff between the attitude of administrators and teachers toward PE. However, administrators and the teachers had sig higher ($p < .05$) attitudes toward PE than did the students.

234. FITCH, Jermone H. An analysis of the factors on the North Carolina Motor Fitness Test with students aged 10-17. M. S. in Physical Education, 1980, 54 p. (Theodore A. Manly)

The North Carolina Motor Fitness Test was administered to 185 boys and 229 girls in the Charlotte-Mecklenburg School System in NC at the beginning and end of the NYSP at Johnson C. Smith University, Charlotte, NC. ANOVA was used to compare the pre and post scores of each of the components of the test. It was found that the overall fitness level of the Ss did not improve. The females sig outperformed the males in sit-ups. There was no sig diff between pre and post test scores on side-steps, modified pull-ups, squat-thrusts, and the 440 yard dash.

235. WHITE, Henry E. The history of women's athletics at Saint Augustine's College. M. S. in Physical Education, 1980, 64 p. (Ross E. Townes)

The purpose of this study was to give a historical and systematic account of the sig events and important personalities associated with the college's athletic program from 1969-1979. A documentary analysis of Central Intercollegiate Athletic Bulletins, newspapers, school bulletins, yearbooks, school catalogs was performed, along with personal interviews. It was found that the Falconnettes were

CIAA champions in basketball in 1973-74 and 1977-78 and champions in volleyball in 1977, 1978 and 1979, finishing third place in the NCAIAW in 1979. The track and field team won the CIAA Championship in 1977, 1978 and 1979.

NORTHEAST MISSOURI STATE UNIVERSITY (L. Boleach)
KIRKSVILLE, MO

236. BEITER, F. W. Prediction of football playing ability. M. A. in Physical Education, 1980, 88 p. (J. L. Mayhew)

46 players served as Ss for the construction of a football prediction test using general and specific motor performance tests. The 18 tests included measurements of strength, power, speed, agility, and body composition. All raw data were converted to T scores. Multiple regression analysis selected the top 4 tests to estimate the sum of 18 T scores. Neither the 4- nor 18-item profile sig predicted starters in the Spring Game. Multiple regression to predict coaches' rating (Mean of 5 coaches) produced an $R = .66$ using 1-RM bench press, power clean, 7 skinfolds, blocking RT, and Margaria-Kalamen anaerobic power. Contrary to results of other studies to predict success in football, the test battery developed in this study did not distinguish between starters and nonstarters. Possession of speed, strength, and size does not guarantee success in a highly skilled game such as football.

237. FISHER, S. G. The incidence of secondary amenorrhea in athletes and non-athletes. M. A. in Physical Education, 1980, 78 p. (J. L. Mayhew)

300 college females, 40 athletes and 261 nonathletes completed a questionnaire to determine the prevalence of secondary amenorrhea. In addition, skinfolds were taken to estimate % fat. 70 Ss were disqualified because of steroid contraceptive use. Athletes were sig ($p < .05$) taller and leaner ($p < .001$) than non-athletes. Age at menarche was slightly but not sig greater for athletes. There were no sig diff in length of cycle, degree of flow, pain during flow, and failure to menstruate during the previous year between athletes and non-athletes. Although athletes were lower in % fat (21.2 ± 3.6%) than non-athletes (23.1 ± 3.6%), the lack of diff between the groups in menstrual irregularities excluded body fat as the sole determinant of secondary amenorrhea in college females.

238. JACKSON, Jeanne M. The relationship between physical fitness levels and self concept in college males and females. M. A. in Physical Education, 1980, 54 p. (L. Boleach)

Relationships between PF and self concept in college m (50) and f (50) were determined. Ss were randomly selected from students enrolled in a PF concepts class during the 1979-80 school year. Ss were evaluated on 3 PE items -- VO$_2$ max, % BF, strength/kg BW. In addition, T-scores for the 3 PF items were summed to obtain a total PF score. Ss also completed the Tennessee Self Concept Scale which resulted in a total SC score plus scores for 9 separate dimensions of self-esteem. No sig relationships ($p > .05$) between strength and any of the self-concept variables were determined for either m or f. % BF yielded the greatest number of sig ($p < .05$) relationships (f=7, m=8). VO$_2$ max yielded 5 sig ($p < .05$) relationships (f=4, m=1). The relationship between the total PF scores and the total self-concept scores was sig ($p < .05$) for both m and f.

239. SITTMANN, Lucinda E. Physical fitness norms for Northeast Missouri State University students. M. A. in Physical Education, 1980, 36 p. (L. Boleach)

Norms were developed for Northeast Missouri State University students enrolled in the Health and Physical Fitness Concepts classes. 372 male and 648 female Ss were tested for the sum of 6 skinfolds, predicted % fat, predicted VO$_2$ max, grip strength, leg strength, back strength, vertical jump distance, and vertical jump power. Means, standard deviations, and ranges for all variables were calculated. Classification was based upon sex. Percentiles in increments of 5 were constructed for each variable in each classification.

NORTHEASTERN UNIVERSITY
BOSTON-BOUVÉ COLLEGE, BOSTON, MA

240. ADLER, Cyrus. Will creative dramatics affect the creative thinking abilities of chronic psychiatric patients? M. S. in Recreation and Leisure Studies, 1980, (F. M. Robinson)

241. APRIL, David. The relationship between stirrup number and length, tensil strength of athletic tape. M. S. in Physical Education, 1980, (C. S. Christensen)

242. BERGEN, Gayle F. The use of art work in the diagnosis of psychopathology. M. S. in Recreation and Leisure Studies, 1980, (K. Luttgens)

243. MYERS, Francis L. The effect of an outdoor summer program on locus of control in pre-delinquent youth. M. S. in Recreation and Leisure Studies, 1980, (R. B. Morrison)

244. NOLAN, Gwen A. The effects of a specifically designed perceptual-motor program on self-concept in kindergarten children. M. S. in Recreation and Leisure Studies, 1980. (H. D. McCracken)

245. SAVICKI, James. Physical working capacities of high school varsity football players. M. S. in Physical Education, 1980. (C. S. Christensen)

246. THERIAULT, Cynthia. The relationship between personality characteristics and project adventure at Westford Academy. M. S. in Physical Education, 1980. (R. C. Zobel)

247. WHITE, Ralph. The influence of progressive resistive exercises of basketball leg injuries. M. S. in Physical Education, 1980. (C. S. Christensen)

NORTH TEXAS STATE UNIVERSITY (Robert W. Patton)
DENTON, TX

248. GENUCHI, Marvin C. The effects of anxiety on the performance of collegiate golfers in competitive and non-competitive situations. M. S. in Physical Education, 1980, 70 p. (R. Weinberg)

The study sought to determine the relationship between competitive trait anxiety (CTA), state anxiety, and golf performance in a field setting. 10 low, moderate and high CTA collegiate golfers (N = 30) performed in a practice round on Day 1 and Day 2 of a competitive tournament. State anxiety results indicated a sig CTA main effect, with low CTA Ss displaying lower state anxiety than moderate or high CTA Ss. The competition main effect was also sig, with post hoc tests indicating higher levels of state anxiety during Day 1 and Day 2 than during the practice round. Performance results produced sig CTA main effect, with low CTA Ss displaying higher levels of performance than moderate or high CTA Ss. Correlations between SCAT and state anxiety indicated that SCAT was a good predictor of precompetitive state anxiety. The direction of state anxiety and performance CTA main effects provide support for Oxendine's (1970) contentions that sports requiring fine muscle coordination and precision (e.g., golf) are performed best at low levels of anxiety.

249. HEFFNER, Kyle D. The acute effects of intermittent running on serum CK and LDH enzyme activities in runners and non-runners. M. S. in Physical Education 1980, 58 p. (R. Patton)

Acute effects of repeated sprinting upon serum creatine kinase (CK), lactic dehydrogenase (LDH), and isozymal activities were studied in 5 collegiate runners (R_s) and 6 nonrunners (NR_s). After an intermittent running treadmill test, blood sampling showed three-fold mean increases in CK with no change in LDH in both groups; group diff were insig ($p > .05$). Results suggest that intense anaerobic exercise produces moderate enzyme elevations; relatively equivalent exercise intensities are critical to enzyme responses in exercising individuals of varying fitness levels; and exercise-induced enzyme release may be consequential to muscle cell membrance permeability changes from decreased intracellular high-energy phosphates.

250. LaCROIX, James S. Psychobiological and pacing characteristics of field tested endurance performance. M. S. in Physical Education, 1980, 68 p. (R. Patton)

This study investigated the psychobiological and pacing characteristics of the 1.5 mile run. 66 males (18-27 years) performed the run, and were monitored for ratings of perceived exertion (RPE), heart rate (HR) and split times. The RPE values increased in a near linear fashion inconsistent with other measures, and thus is not considered a supportable indicator of physiological performance during the run. Pace was characterized by an initial sprint that slowed to a near steady pace and concluded with a final sprint. The initial and final sprints were most highly related to the variance of performance time. Initially, HR accelerated greatly. This acceleration slowed, ending in near maximum HR. The data suggested that performance may rely heavily upon anaerobic mechanism; and variance in previously reported correlational analyses of VO_2 max and 1.5 mile run performance times may be somewhat due to anaerobic mechanisms.

251. PFAUTSCH, Eric W. A kinematic analysis of the baseball batting swings involved in opposite-field and same-field hitting. M. S. in Physical Education, 1980, 121 p. (D. Mcintyre)

Male college level baseball players (N=20) were assigned to 1 of 2 groups according to their baseball hitting abilities. Each S hit 6 pitched baseballs, 3 to each of 2 assigned areas of the playing field. Each of the performances was filmed from above. The results of the study revealed that the movement patterns for the opposite field and same field batting swings were similar in form with differences between the swings being due to both differences in the angular displacements at the left wrist and left elbow joints and to differences in the temporal characteristics. In addition, no interractions were found between the Ss groups and 2 types of batting swings in terms of the selected descriptive mechanical parameters. The location of the bat at the instant prior to ball contact was found to be in front of the home plate for all conditions. The computed angles of incidence and reflection were found to be the same for all conditions.

252. WATKINS, Mark E. A factor analysis of twelve selected resistance exercises on the Universal Gym. M. S. in Physical Education, 1979, 66 p. (R. Patton)

The purpose of this study was to clarify the factor structure that exists with 12 selected exercises on the Universal Gym and to determine what strength measures on the Universal Gym present the most valid method of assessing strength of college-aged males. 88 males enrolled in university level beginning weight training classes were familiarized with the Universal Gym during the intial 12 wks of instruction. Each S was tested for max strength (1 RM) on each of the 12 exercises. Alpha and canonical factor analysis were performed on the raw scores of all strength measures. In addition, alpha and canonical factor analysis were performed on the strength scores where the variance accounted for by body wt. and standing ht. was removed. A 3- factor structure of upper extremity, lower extremity and trunk strength was delineated when wt. alone and wt. and ht. were statistically controlled. It was also found that residualized scores of body wt. can be used to evaluate strength performance on the Universal Gym.

OKLAHOMA STATE UNIVERSITY (Aix B. Harrison)
STILLWATER, OK

253. BALL, Phil. Professional preparation and certification of secondary school coaches: An analysis of positions taken by state leaders in related professional organizations. Ed.D. in Higher Education, 1980, 191 p. (John Bayless)

Questionnaires were sent to directors of teacher certification, presidents of coaches associations, presidents of state P.E. association and executive secretaries of school activity associations in all states. There was an 86.5% response rate. Questions dealt with the perceptions and needs of certifications for athletic coaching. 71% indicated a need for certification. 15% currently have coaching certification. Where certification exists, 68% rated it as effective. The major in PE was rated as the best program to meet certification needs. Of the 5 preparation areas proposed by the AAHPERD Task Force, the medical aspect was considered the most essential and the kinesiological area the least essential.

254. CARLTON, William. Dynamic balance and ankle plantar flexion and dorsal flexion strength in second grade boys. Ed.D. in Higher Education, 1980, 70 p. (O. D. Wykoff)

Ss were 45 second grade boys. All Ss were tested for dynamic balance on a stabilometer and for ankle strength with a cable tensiometer. Ss were divided into exp and control groups with the exp group getting ankle strengthening exercises daily for 8 wks in addition to their regular PE activity. There was no sig relationship between dynamic balance and ankle strength. The exp group was sig better than the control group on ankle strength scores on the post test.

255. DUNN, John. Four methods of predicting per cent body fat in men as compared to underwater weighing. Ed.D. in Higher Education, 1980, 69 p. (Aix B. Harrison)

45 male faculty members from Bethany Nazarene College (87% of total) acted as Ss. Body fat % was predicted for each S using the methods of Sharkey (body circumferences), Best, Consolazio, and Kuntzleman (skinfolds) as well as by underwater weighing. The relationship between each method and underwater weighing was high (.80 - .89). The method of

W. R. Best predicted the group 8% low. The other methods predicted approximately the same % body fat as the underwater weighing.

256. FRYE, Mary. An analysis of the relationship between leisure interests and representational systems among college freshmen with implications for leisure counseling. Ed.D. in Higher Education, 1980, 72 p. (Pauline Winter)
300 freshmen in English composition classes were chosen by random cluster sampling as Ss. Leisure interests were determined by the McKechnie Leisure Activity Inventory. Dominant sensory input in relation to preferred leisure experience was determined by examining verbs in paragraphs written by Ss describing their most valued leisure experience. The kinesthetic sensory input was dominant in most Ss. There was no relationship between leisure interest category chosen and representational system/sensory mode preferred. Comparisons were made of interests and representational systems between sexes and between students in various colleges of the university but few differences found.

257. GIVENS, Billy, Kay. A philosphophical analysis of the relationship between the whole-man concept and tennis. Ed.D. in Higher Education, 1980, 78 p. (Betty Abercrombie)
The whole-man concept as set forth by philosophers and educators was studied in detail. Tennis as a part of PE was explored for its potential contribution to the whole-man concept through the psychomotor, cognitive and affective domains.

258. KING, Ellen. Attitudes of special Olympians towards coed competition. Ed.D. in Higher Education, 1980, 91 p. (George Oberle)
Ss were 4 male and 4 female participants from each age group of the Special Olympics Finals in 6 selected states. Total N=384 participants in the 50 m dash. Ss were verbally asked to choose competitors for a race and teammates for a relay from selected peer groups. The male Ss preferred male competitors and male teammates. Female Ss preferred female competitors but showed no preference in regard to teammates.

259. McCRORY, Mac. The effects of an exercise program on self-concept and physical fitness of Oklahoma State

University commissioned peace officers. Ed.D. in Higher Education, 1980, 109 p. (Aix B. Harrison)
24 male campus policemen were pre tested and post tested on a battery of fitness tests and the Tennessee Self-concept Scale. After the pre test Ss were given an individualized exercise prescription based on THR and asked to participate at least 3 times weekly for 16 wks. If the S failed to accomplish 2/3 of the duration or intensity of the recommended exercise he was classed as a non-participant. On the post test there were 11 participants and 13 non-participants. There was a sig decrease in Family Self-Concept of the participants. There were no changes in Self-Concept in the non-participants. The participants improved sig in max VO_2, flexibility, % body fat, weight residual, MBC, and resting HR. The only sig change in fitness scores among non-participants was a decrease in % body fat.

260. WEISBEIN, Harold. The relationship of the 23 day physical and the 28 day emotional biorhythm cycle to free throw accuracy. Ed.D. in Higher Education, 1980, 86 p. (O. D. Wykoff)
Ss were 91 varsity basketball players with free throw shooting records from 11 small four-year colleges in the OK, AR area. Biorhythm cycles were plotted based on S's birth date. ANOVA was performed on the various biorhythm combinations to test for diff in shooting percentage. ANOVA indicated a sig diff t tests indicated superior free throw shooting when the biorhythm combination was physical-critical, emotional-down. These results tend to refute the traditional claims for biorhythm.

261. WESCOTT, Roberta. The effect of physical education activity classes on the self concept of college students. Ed.D. in Higher Education, 1980, 70 p. (Betty Abercrombie)
Ss were 312 students from 22 elective activity classes at Southeastern Oklahoma State University. 31 students from science classes not taking P.E. were controls. The Tennessee Self-Concept Scale was given at the beginning and end of a semester. The variables, Total Positive, Physical Self, Personal Self and Self Satisfaction, were closely examined. There were no sig diff between experimental and control groups on the pre test. On the post test there were sig diff favoring the experimental group on Family Self

and Identity. From pre to post test the experimental group showed sig improvement on all four of the primary variables that were examined.

OLD DOMINION UNIVERSITY (M. H. Williams)
NORFOLK, VA

262. CARUTHERS, J. B. Proposed rule changes in college basketball. M. S. in Education, 1979, 74 p. (C. W. Jackson)

The opinions of head basketball coaches of colleges and universities throughout the U.S. and Canada were surveyed relative to proposed rule changes in college basketball. Methodology involved construction of a 10 item questionnaire dealing with proposed rule changes; a 5 item Likert Scale was utilized for measurement of responses. The college classifications included divisions I, II, and III of the NCAA, the NAIA and the Canadian College Athletic Association. The total population of college head coaches surveyed was 1,222; there were 842 returns (69%). The coaches responding seemed to feel that none of the following proposed rule changes were needed: extension of the free throw lane from 12 to 14 feet; use of 3 officials; utilization of 30 sec shot clock; use of a 30 sec shot clock up until the last 5 min of the 2nd half and up until the last 2 min of any overtime period; elimination of all 1 and 1 bonus situations with 2 shots awarded after the 10th team foul in each half; no automatic disqualifications after 5 fouls; awarding of 3 foul shots to make 2 if fouled in the act of shooting; extension of the personal foul limit from 5 to 6; elmination of the center jump and all other jumps with teams gaining alternate possession; and disallowing offensive tip in baskets.

263. LINDHJEM, M. A. The effect of blood infusion upon perceived exertion. M. S. in Education, 1980, 166 p. (M. H. Williams)

Three types of ratings of perceived exertion (RPE) were measured: local muscular RPE, cardiopulmonary RPE, and general RPE. The Ss, 16 experienced long distance male runners, undertook 4 treadmill runs to exhaustion. Ss were matched according to time to exhaustion (ET) on the first trial (T1), and assigned to either an exp or control group. Both groups had 460 ml blood withdrawn following T1. T2 served as a baseline test and was administered about 2 wks following blood removal. About 7 days later, 200 ml packed RBCs mixed with saline to a volume of 460 ml were infused into the exp group while the control group received identical treatment using 460 ml saline. T3 was administered about 2 hrs post-infusion and T4 was administered 1 wk later. The performance criteria were the mean RPE values from Morgan's (1973) scale; RPE were measured during 8 time periods, 7 submaximal levels and the maximal level. A 2 x 4 x 8 RM ANOVA was used to analyze the data. Within the limitations of this investigation the data support the conclusion that blood infusion had no sig effect upon the 3 levels of perceived exertion.

264. PARKER, E. V. An investigation of grading procedures for secondary school physical education classes in selected Virginia school districts. M. S. in Education, 1979, 76 p. (C. W. Jackson)

A questionnaire was sent to 161 PE teachers who were listed as members of the Virginia Association for Health, Physical Education and Recreation. 117 questionnaires (72.5%) were returned. Authors of recent literature in grading practices point out that teachers base course grades on dressing out in gym uniform, skill, effort, participation, and written tests. The data gathered in this study reflect a similar situation in Virginia schools. Effects of variables such as sex, age, grade level taught, years of teaching experience and type of grade plan utilized resulted in some notable differences in the grading practices used by the teachers surveyed.

265. ROCHELLE, J. Attitudes of students in selected Virginia colleges and universities related to death and dying. M. S. in Education, 1980, 108 p. (B. B. Johnson)

The purpose was to identify attitudinal diffs relating to the characteristics of sex, race, age, religious preference degree of religiosity, socioeconomic area, income level, marital status, political viewpoints, imminent personal death, and personal death experience. The Complete Inventory Price Death Attitude Scale was administered to 886 college students during the 1979-80 academic school year. Data were statistically analyzed by the Discriminant Analysis Technique and the Cattell Coefficient of Profile Similarity. Data were analyzed in terms of four subscales: Subscale I, Death Fears, Anxiety and Tension; Subscale II, Death Education; Subscale III, Suicide; and Subscale IV, Miscellaneous or General. All of the demographic variables except socio-economic area, yearly income, political viewpoints, and personal death experience were found to discriminate at or beyond the .05 level.

PENNSYLVANIA STATE UNIVERSITY (Karl G. Stoedefalke)
UNIVERSITY PARK, PA

266. ANDERSON, Judith H. A cinematographic comparison of walking patterns of blind and normal children. M. S. in Physical Education, 1980, 84 p. (H. M. Lundegren, P. R. Cavanagh)

The purpose of this research was to determine the diffs between the walking patterns of blind and normal children and to document the results through cinematographic techniques. Data gathering for the blind children took place at the Western PA School for the Blind in Pittsburgh, PA. Sighted Ss were chosen from friends and neighbors in State College, PA. It was found that there were diffs between the 2 groups in walking patterns. The blind children moved with slower relative speeds, decreased stride length, a lesser range of hip flexion-extension and variation in knee flexion.

267. ANSON, James G. Memory-drum theory: Alternative tests and explanations for the effects on simple reaction time. Ph.D. in Physical Education, 1980, 150 p. (R. W. Christina)

The A and B movement responses were analyzed to determine the effects of inertia, extent and target size on simple and fractionated RT. 11 males Ss (M=25.5 yrs) were tested. A simple RT paradigm was utilized and Ss were required to respond as quickly as possible following an auditory stimulus. 6 treatment conditions were employed. The 3 inertia conditions were minimum, moderate and max. The 3 target size conditions were large, medium and small. 2 extent conditions (short and long) were created from the max inertia and large target conditions, respectively. Dependent variables were simple RT, premotor time (PMT), motor time (MOT) and MT. Each S participated on 3 separate days and received a total of 360 trials. Analyses included tests for trend and intraclass reliability within the dependent measures, tests for diff between independent variables, and tests of inter-and intra-S relationships between the dependent measures. MOT increased as a function of increased inertia. PMT, MOT and MT increased as a function of reduced target size. There were no effects for extent. The diff in RT between the A and B responses was attributed to mechanical or physiological delay rather than information processing delay.

268. BALTHASER, Barbara A. Middle-aged perceptions of retirement and its relationship to selected leisure and demographic variables in Lancaster County, Pennsylvania. M. S. in Recreation and Parks, 1980, 65 p. (P. Farrell)

176 surveys were distributed to 40- to 50-yr old individuals in service organizations and several places of employment in Lancaster, PA. 88 Ss' surveys were returned and useable for analysis. The survey instrument consisted of 2 parts: a S profile consisting of 4 demographic and 3 leisure variables, and Part II was a retirement projection survey called the BBQ. It consisted of 30 statements to which Ss indicated their projected changes as they enter retirement. The M score on the BBQ indicated positive retirement projection by the study group. The BBQ score was positively related to expending an average level of energy in leisure pursuits (as opposed to low energy expenditures). Ss who engaged in leisure with a partner also scored higher on the BBQ than those who leisured alone. 5 aggregate groups of questions were identified in the survey. 2 of those groups--leisure and socialization--showed a relationship to profile data. Leisure scores were higher for the Ss who reported more interests than spare time. Social activity scores were higher for females than for males and for the Ss reporting a better level of health.

269. BLOCM, Marie D. Assessment of drinking beliefs and behaviors among pregnant women. M. S. in Physical Education, 1980, 87 p. (W. L. Eck)

A 42-item questionnaire was developed and used to assess demographic background, drinking behavior, and drinking beliefs among 130 pregnant women representing Central PA. Data analysis utilized the SSPS to provide frequency and cross-tabulation statistics in order to describe the population. According to a frequency-intensity scale, categories of heavy, moderate and light drinkers and abstrainers were constructed. The Ss' informed beliefs were evaluated by an 11-item belief test, with no sig diff found between the moderate/heavy group and the light/abstainer group. A survey of the Ss' willingness to stop drinking for the benefit of their unborn babies versus the benefit to themselves revealed more willingness to stop drinking for the benefit of the unborn babies. The Ss' concern for their health during pregnancy was tested, and it was found that the 2 groups (moderate/heavy and light/abstainer) were not sig diff. Overall, the women showed an increased bodily awareness and concern for their health due to their reported concern for fetal health and their decreased drinking habit upon pregnancy. It is apparent from this study that pregnancy provides an opportune time for modifying behavior that may pose a hazard to the unborn baby.

270. BROWN, Richard M. The effects of a pet experience on the self-concepts and social development of mentally retarded group-home residents. M. S. in Recreation and Parks, 1980, 76 p. (H. M. Lundegren)

The pet was viewed as a non-demanding, non-critical friend, which accepts one as one is. The pet experience involved the acquisition, care and training of a pet dog. The experience lasted for an 11-wk period. The 5 Ss were pre and post tested for self-concept, using the Piers-Harris Children's Self-Concept Scale, and pre- and post-rated for social development by the Gunzburg Progress Assessment Charts for Social and Personal Development. 3 of the 5 Ss showed sig changes in their self-concepts. 2 of these changes were in the positive direction; 1 was in the negative direction. 4 of the 5 Ss showed very slight to substantial positive changes in their social development. 1 S showed a slight decrease in his social development. It was determined that the pet experience was an overall success. It provided the group-home personnel with subject matter for the ongoing training sessions. The experience also enabled the Ss to reach at least 1 group-home goal each, as determined by the group-home personnel.

271. CANABAL-TORRES, Maria Y. Organization of movement information in the short-term motor memory of young children. M. S. in Physical Education, 1980, 104 p. (H. M. Lundegren, R. W. Christina)

A linear positioning task was used to assess short-term motor memory of 7- to 8-yr old (n=30) and 11- to 12-yr old (n=30) children from both sexes. After demonstration and practice, Ss were given 10 exp trials. A trial consisted of random presentation of 5 movement extents (10, 20, 30, 40 and 50 cm) followed by reproduction of each in an assigned condition. Reproduction conditions were: SDO (subject-directed order: as desired), EPO (experimenter-produced order: linear ascending), and FR (forced random: presentation order). Ss were blindfolded and individually tested in 1 session of about 30 min. Reproduction error was the M absolute diff between each presentation and its reproduction for the 10 trials. A 3x2x2x5 ANOVA (reproduction condition x age x sex x movement extent) was computed. Age was sig ($p < .01$), with older children having less reproduction error than the younger ones. A sig reproduction condition x movement interaction ($p < .01$) was assessed by 1-factor ANOVAs for simple effects and Tukey's WSD. FR condition had more absolute error than either SDO or EPO, with no sig diff between the latter 2. The FR, 30, and 40 cm extents had less reproduction error than the rest. For SDO and EPO, no sig diff in reproduction error among the 5 extents was evident. Thus, for 7- to 8- and 11- to 12-yr olds reproducing randomly presented information, less error is produced when organization is possible (SDO and EPO) than when it is prevented (FR).

272. CAREY, Richard J. An investigation of high school nurses' knowledge of sports trauma management. M.S. in Health Education, 1980, 111 p. (R. E. Shute)
The focus of this study was an investigation of the knowledge competencies of SHS nurses in relation to injury management. A Sports Trauma Management Inventory (STMI) was developed to accomplish this measurement. The final version of the STMI was sent to a random sample of PA school nurses (n=196) and athletic trainers (n=196) in the Eastern U.S. 142 tests (36%) were returned and subsequently analyzed. In comparison to the reference group of athletic trainers, the school nurses' knowledge level was judged to be insufficient to assume adequate injury management. Overall, 75% of the nurses failed the test, compared with only 26% of the trainers. The trainers were, as a group, younger than the nurses, and had a better educational background. The recency of the trainers' education may account for their better performance on the STMI.

273. CLARKE, Thomas E. The pressure distribution under the foot during barefoot walking. Ph.D. in Physical Education, 1980, 134 p. (P. R. Cavanagh)

Pressure distribution under the foot was determined for 27 sympton-free Ss walking barefoot. 2 speeds of walking (1.33 and 1.79 m.s^{-1}) were examined using a capacitance mat with 2,048 elements, each 1 cm^2 in area. The 54 feet tested were divided into 3 groups (flat, normal and high-arched) based upon the amount of midfoot contact area that they exhibited. For purposes of analysis, each foot contact area was divided into 8 anatomical regions: medial and lateral rearfoot, mid-foot, metatarsal heads, and toes. Ranges of peak pressure were established for each region of the foot and these ranges were large in all regions. Over all Ss, the peak pressures in the rearfoot, metatarsal heads, and toes were found to be higher than those seen in the midfoot. Peak pressures in the mid foot regions were found to be sig greater in the Ss whose feet were classified as flat than in normal or high-arched Ss. Peak pressure was found to increase with an increase in walking speed in most regions. In summary, the analyses performed on pressure distribution patterns produced results which have implications concerning pathology diagnosis and footwear design.

274. COOK, Keith V. The effectiveness of outdoor adventure programs as training methods for resident assistants. M. S. in Recreation and Parks, 1980, 89 p. (B. van der Smissen)

A 3-day outdoor adventure training program for 55 resident assistants (RAs) (exp group) was implemented at PSU during the wk preceding the arrival of the 1979 fall term students. Simultaneously, a control group of 50 RAs participated in regular "in house" training. The adventure program entailed hiking, caving, swimming, and group problem-solving tasks. The Moos and Humphrey Group Environment Scale and the Vegega Supervisory Self-Confidence Scale measured the dimensions of group-cohesion and self-confidence, respectively. The scales were administered on the day prior to commencement of training, on the day following the program, and at the end of fall term (11 wks later). There was a sig increase in group-cohesiveness for the exp group when compared with the control group following the training program, and the cohesiveness was sustained over time. There was no sig increase in self-confidence for the exp group when compared with the control group either following the adventure program or 11 wks later. The effectiveness of the program is differentiated in certain respects by whether RA participants are male or female.

275. DICKINSON, Cheryl M. Attitudes of recreation administrators toward the mainstreaming of recreation and leisure services for the mentally retarded in Pennsylvania. M. S. in Recreation and Parks, 1980, 90 p. (H. M. Lundegren)

Attitudes toward the mainstreaming of REC and leisure services for the MR were examined throughout community REC and parks depts in PA. A mail questionnaire, developed by the investigator, was used to determine the attitudes of the REC administrators in the study population in regard to mainstreaming REC and leisure service and providing REC programs for the MR in a community REC dept setting. Descriptive statistics (frequencies and %) were used to develop background profiles of the respondents, correlations were made between attitude and demographic variables, and a Likert Scale Analysis was made of the attitude test statements. It was concluded that the administrators participating in the study held favorable attitudes toward the mainstreaming of REC and leisure services for the MR. No relationship was found between the attitudes professed by the administrators and the actual behavior toward the mainstreaming of REC and leisure services. It was indicated that services for the MR are not being offered to any great degree in an integrated fashion in the community REC and parks depts represented in this study.

276. DOOLEY, Martha M. The effects of a swimming program on the anxiety levels and cardiovascular endurance of children with chronic bronchial asthma. M. S. in Recreation and Parks, 1980, 99 p. (H. M. Lundegren)

5 asthmatic boys aged 10 to 16 participated in swimming lessons on an average of twice a wk for 7 wks. All Ss were patients of a residential treatment program for bronchial asthma at Children's Heart Hospital in Philadelphia, PA. Swimming lessons were conducted at the Kensington YWCA swimming pool. Cardiovascular endurance, as measured by the Ss' HR before and after a 6-min submax treadmill test and by resting and max HR after a weekly 12-min swim, did not improve substantially. Trait anxiety levels, as measured by Spielberger's State-Trait Anxiety Inventory for Children, remained relatively stable in those Ss who scored near the norm. The trait anxiety level of 1 S who was initially extremely anxious declined substantially. The state anxiety levels of the Ss fluctuated in no particular pattern.

The Ss' peak expiratory flow rates either improved slightly or decreased no more than 5% points. 3 of the 5 Ss completed the American Red Cross Beginner swimming skills by the end of the program. The fact that no S experienced deleterious effects from participating in the strenuous physical exercise has implications for programming, because these children are often not permitted to engage in exercise and thereby miss opportunities for physical and social development.

277. DOTTERER, Dorothy E. Out-of-home leisure style preferences and constraints of retired women. M. S. in Recreation and Parks, 1980, 103 p. (H. M. Lundegren)
Older women's feelings toward out-of-home and nonfamilial styles of leisure were explored. 3 independent social status variables included: employment status, marital status, and occupational status. Hypothesized relationships were investigated between these variables and 4 dependent leisure style variables. The nonrandom sample (n=100) included women who were obtained primarily through job-related sources and had an atypically high representation of retired professional women. The study findings showed that older women of different work-related and marital statuses vary in their responses to out-of-home and nonfamilial leisure styles. On the basis of chi-square analysis, 2 hypothesized relationships were found to be sig at a .05 level: retirees had a higher preference for friend contacts than did housewives, and widows and never-marrieds had a greater preference for friend activity companions than marrieds. Additional social status findings (not tested for sig) were that: professionals engaged in more out-of-home activities than did nonprofessionals, married retirees increased out-of-home activity participation more than the alternative groups. The women's responses were treated as a total group using descriptive statistics. The women prevalently had not been engaging in the 16 specific out-of-home activities presented to them; furthermore, the overall impression formulated on the basis of the responses was that the women were doing the activities as much as they preferred to be.

278. FEEHERY, Raymond V., Jr. The influence of different surfaces on the ground reaction forces and acceleration of the head in distance running. M. S. in Physical Education, 1980, 91 p. (P. R. Cavanagh)

This study was designed to investigate ground reaction forces and accelerations on the body during running on grass, asphalt, and concrete. 17 male Ss (m ht=70 in., m wt=115 lb., m age=30 yr.) performed 5 trials on each surface at a running speed of 3.83 ms^{-1}. A 3-inch thick surface specimen was laid upon a Kistler Force Platform. An accelerometer mounted on a bite bar measured the vibration transmitted through the body to the head. ANOVA was used to compare the peak values of force and acceleration and their times of occurrence. Sig diff between surfaces were seen in the vertical force component (Fz) and the acceleration at the head. Peak Fz was lower on concrete by .1 BW. Rise-time on grass was 3 ms longer. The minimum Fz between the 2 peaks was .25 BW higher on grass. The acceleration-time curve was similar to the Fz-time curve. A delay of 10 ms was seen in the transmission of the peak accleration to the head, and the second peak acceleration was attenuated, presumably due to changes in the effective stiffness of the leg during support. The diff between surfaces were small and may have been perceptually influenced.

279. FELTZ, Deborah L. A path analysis of the causal elements in Bandura's theory of self-efficacy and an anxiety-based model of avoidance behavior. Ph.D. in Physical Education, 1980, 142 p. (D. M. Landers)
Path analysis techniques were employed to investigate the predictions based on Bandura's model of self-efficacy along with an anxiety-based model in the approach/avoidance behavior of female college students (n=80) attempting modified-back dive. The Bandura model predicted that a reciprocal relationship existed between self-efficacy and back-diving performance and that self-efficacy was the mediator of back-diving performance. The anxiety-based model, formulated from dual-process theory and a 3- systems approach to anxiety, included performance, self-reported anxiety, and physiological arousal (HR) as causal influence of back-diving performance. Self-efficacy was hypothesized to be only an effect rather than a causal influence of performance. Results provided little support for either model. Self-efficacy was neither just an effort nor the only predictor of back-diving performance. Although a reciprocal cause-effect relationship between self-efficacy and back-diving performance was found, they were not equally reciprocal. As one gained experience on the task, back-diving performance had a greater influence on self-efficacy than

self-efficacy had on performance. The respecified model explained more performance variance than did either the Bandura or the anxiety-based model.

280. FLANAGAN, Julie M. A test of recall and recognition schema on a rapid-aiming task. M. S. in Physical Education, 1980, 86 p. (R. W. Christina)

Schema theory of discrete motor-skill learning was tested using a rapid-aiming task. The problem was to determine if there was an effect on initial-recall and recognition-schema transfer performance to a novel target produced by: training with variable- and nonvariable-target practice (practice conditions); experience or not experiencing, prior to training, the amount of visual displacement of the target produced by wearing prism glasses (rule conditions); and an interaction between practice and rule conditions. A 2x2 (practice conditions x rule conditions) factorial design was used in which 4 groups of 15 male Ss performed 60 training trials with verbal knowledge of results and 20 transfer trials on the novel target without knowledge of results. The treatment conditions were: rule variable practice, no-rule variable practice, rule nonvariable practice, and no-rule nonvariable practice. The main finding resulting from ANOVA was that the variable practice groups had less recall-schema performance error for initial transfer and across transfer trial blocks than the nonvariable practice groups. No other effects were found to be sig ($p > .05$).

281. HANDFORD, Francis J. The effects of positive performance appraisal by a significant other on the self-perceptions of ability of novice participants in the rock-climbing phase of an adventure program. M. S. in Recreation and Parks, 1980, 109 p. (H. M. Landegren)

The effects of positive performance appraisal on the self-perceptions of ability of 120 secondary-school pupils participating in 6 adventure programs were studied. The Ss were given high or moderate praise by their rock-climbing instructor for performance in the rock-climbing phase of an adventure program. The Ss' self-perceptions of rock-climbing ability, physical ability and physical fitness were assessed with the Modified Physical Self Test at the start and conclusion of each 6-day program. Biographical information on the Ss was collected at the conclusion of the program with the Sports Background questionnaire. ANCOVA revealed no sig diff between the posttreatment self-perception scores of the high and moderate appraisal groups. The study failed to support 4 hypotheses that associated high positive performance appraisal offered by an instructor, with increases in program participants' self-perceptions. The results of exploratory analyses indicated that diff program experiences within the field setting of this exp may have affected the participants' self-perceptions. Variations in the weather conditions and the identity of the instructors during the rock-climbing phase of the program were associated with variations in the measured self-perceptions of participants. These influences of program variables on adventure program participants should be investigated further.

282. HERROLD, Grace. The role of the school nurse as perceived by senior high school teachers in selected schools in central Pennsylvania. M. S. in Physical Education, 1980, 70 p. (R. W. St. Pierre)

There is little information on how teachers perceive the school nurse and her role in the public schools. Do teachers discern her role as giving first aid and doing mandated screenings or do they see her as counselor, planner of health programs, and resource person with readily available resource material? Ss used were from 3 SHSs in central Pennsylvania. Questionnaires were given to 244 teachers; 88 were completed and returned. The questionnaire consisted of statements concerning the role of the school nurse in the following areas of service: mandated services, first aid, and immunization; teaching, counseling, and communication; and serving as resource person and having other duties within the school. Cross-tabulations were completed using 3 control variables, the teachers' yrs of experience, no. of college credits earned, and frequency of verbal contact with the school nurse. Completed questionnaires revealed that perceptions of the school nurse role did not change sig as teachers gain teaching experience, earn more college credits, or have more verbal contact with the school nurse. Responses by teachers were favorable in all 3 service categories studied. More studies are needed to clarify the role of the school nurse as perceived by SHS teachers.

283. HILL, Thomas R. Maximal oxygen consumption during combined arm and leg work. M. S. in Physical Education, 1980, 103 p. (J. L. Hodgson)

13 male volunteers underwent testing for VO_2 max and max HRs during arm cranking, treadmill running, and combined arm and leg work. The combined work involved arm cranking while running on a motor-driven treadmill. Segment volumes for the arms and leg were calculated. The VO_2 max during treadmill running was not statistically diff from the VO_2 max during combined arm and leg work; arm cranking VO_2 max was statistically diff and lower than both the treadmill running and combined work VO_2 max values ($p < .01$). The VO_2 max during arm cranking ranged from 59% to 99% of the running VO_2 max with an average value of 77%. The VO_2 max of the Ss considered moderately active (n=5) was sig lower than the groups considered habitually active, i.e., kayak-canoeists (n=4) and habitually active runners (n=4), during all types of work ($p < .05$). The correlation between the running VO_2 max and the combined work VO_2 max was r=.78. The max HR attained during arm cranking were statistically diff and lower than max HR during treadmill running and combined work ($p < .01$). The correlation between total arm volume and arm cranking VO_2 max was r=.62 and r=.64 for total arm volume and combined work VO_2 max. The correlation between total arm and leg volume and combined arm and leg work VO_2 max was r=.64.

284. HOLMES, Deborah J. A history of men's intercollegiate athletics at Lycoming College, 1888-1979. M. S. in Physical Education, 1980, 155 p. (J. A. Lucas)

The athletic program at the institution was initiated and strengthened throughout the yrs by student participation and support. In the 1880s, academic studies and the development of good Christian ideals were emphasized. Athletics were recognized as a necessary means to maintain good health. A gymnasium, ball field, lawn tennis court, and an organized military company were provided for physical development. The students wanted their school to become more involved in athletics since similar eastern schools had established seasonal programs. They believed that through association with athletes of other institutions, they would develop broader ideas, and competition would add variety to the routine of school life. Many developments resulted from the formation of the sports program. Due to dissatisfaction with student management of the sports teams, an athletic association was organized. Changes made in the association eventually involved students, faculty, administrators, and alumni in athletic affairs. Since successful programs were desired, regular practice schedules and training programs were developed. Competent coaches were essential to keep pace with school programs. Sports developed from an extra-curricular pastime to an integral part of the college program.

285. JAYCOX, Sharon. A comparative content analysis of end-of-chapter review questions in selected-level health education textbooks. M. S. in Physical Education, 1980, 78 p. (R. W. St. Pierre)
A content analysis procedure was used to determine the cognitive skills and abilities most often required for answering end-of-chapter review questions in selected HE textbooks. A coding instrument was developed which explained, described and offered examples for analyzing and constructing questions at the 6 levels of the cognitive domain. Interrater reliability of the instrument was tested and found to be within acceptable limits. A survey was then conducted which identified the textbooks most frequently used in SHS in central PA. 4 textbooks and a comparative textbook provided the sample of 337 questions which were analyzed according to the coding instrument. It was determined that 88% of the questions analyzed in the study fell into the 2 lowest categories (or levels) of the cognitive domain. In addition, less than 6% fell into the 4 highest categories, those which require the use of more advanced intellectual abilities and skills. These findings suggest that students tested by end-of-chapter review questions are not likely to be exposed to challenging intellectual stimulation. Based on the results of this study, it is suggested that teachers supplement end-of-chapter review questions with other teaching methods which would better facilitate synthesis and higher-order application of material covered in the textbook.

286. JOYNER, Dwight O. The effects of participation in a recreation program on life satisfaction among elderly male, terminally ill individuals. M. S. in Recreation and Parks, 1980, 71 p. (H. M. Lundegren)
For this study, 40 terminally ill, elderly patients in a veteran's hospital were administered the Life Satisfaction Indexes (LSIA and LSIB) and divided into 2 groups. An exp group (N=20) received a 4-wk (2 to 3 sessions per wk) REC program, emphasizing a motivational and socialization approach. Program content was based on S interest and

consisted mainly of quiet games. The other group (N=20) served as a control group and did not participate in any regular program of activity. Ss were retested at the end of the program, and, for purposes of a reliability check, once again a few days later. Within-group and between-group comparisons were made, using t-tests, between mean life satisfaction scores. Reliability was computed using r. No sig diffs between groups were found for any of these comparisons. Reliability coefficients were .98 for the LSIA and .99 for the LSIB. Based on these data, the investigator concluded that participation in a REC program does not influence life satisfaction of terminally ill, male, senior adults. Patients did respond well to the program and learned new leisure skills, achieved relaxation and enhanced interpersonal skills as opportunities for interaction were provided.

287. KEARNS, Kathryn F. Sex-role orientation and attitudes toward male and female performers. M. S. in Physical Education, 1980, 94 p. (D. M. Landers)

The investigation attempted to determine whether individuals evaluate the identical performance of a male and a female accomplice differently and, if they do, whether sex-role orientation is a causal factor. The Personal Attributes Questionnaire was used to categorize Ss according to their sex-role orientation (undifferentiated, masculine, feminine, or androgynous). Each of the 48 males and 48 females in the final S pool was required to make 2 estimations (the first, preperformance; the second, postperformance) on the amount of time a male and female accomplice could perform a leg-extension task. Attitudes were implied from the discrepancy between Ss' estimations and the standard 120-sec performance by accomplices. 5- or 4-way ANOVAs were conducted on the following variables: sex of S, sex-role orientation, order of accomplice, pre/post-estimations, and sex of accomplice. Results indicated that males were perceived as more competent than females prior to performance but not after performance. Considering other studies, these findings represent a greater acceptance of the female performer in our society. Sex-role orientation was also not a factor in the way in which males and females evaluated others.

288. KERSTETTER, Deborah L. Pre-retirement leisure counseling and leisure activity participation of retired

individuals. M. S. in Recreation and Parks, 1980, 93 p. (F. B. Guadagnolo)

The relationship between pre-retirement leisure counseling and leisure activity participation among retired individuals was examined. A mail questionnaire was used to examine the impact of pre-retirement leisure counseling on activity participation. Of the 250 retired individuals requested to participate in the study during June, 1980, a total of 161 returns were received (99 retirees, 62 counseled retirees). The sample population was obtained through the use of a computer listing from a private company. Data dealing with demographics and activity participation were tabulated and presented through use of calculated frequencies. Demographics were evaluated by means of t-tests, and X^2 analysis examined the relationships between activity participation and demographic data. It was found that pre-retirement leisure counseling is related to the activity participation of retired individuals. In addition, when the relationships between activity participation and demographics of both the counseled retirees and retirees were examined, sex and marital status appeared to be sig.

289. KINNEAR, Jean L. Determination of the existence of a weather standard for outdoor recreation activity participation. Ph.D. in Physical Education, 1980, 375 p. (B. van der Smissen)

The presence of a systematic relationship between outdoor REC activity participation and weather elements (i.e., a weather standard) and the nature of the association of participation with weather variables was sought for state park activities (i.e., picnicking, pool swimming, lake swimming and beach use, boating, fishing) trail use (hiking and cross country skiing), ice use (ice fishing and ice skating) and sledding and tobagganing. Daily attendance records and observations for approximately 15 weather elements (selected with common factor analysis) for 1976-1978 for 5 PA state parks and 4 PA weather stations underwent multiple correlation regression analysis. A weather standard composed of a number and particular order of weather elements was found for each activity and differed somewhat by park and day group (weekdays and weekends and holidays). The nature of association was determined, and most weather elements in the standard had negative relationships with activity participation.

290. KISER, David M. Cardiac output, oxygen consumption, and heart rate transients during concentric and eccentric exercise. M. S. in Physical Education, 1980, 66 p. (E. Kamon)

Q, VO_2 and HR transients following the onset of concentric and eccentric exercise were studied on 5 male volunteers. Both types of exercise were performed on a laddermill ergometer at a rate chosen to elicit 30% of the Ss' treadmill VO_2 max. Semi-log data transformations and least-squares regression analysis yielded rate constants for each variable. Individual regression lines were compared by ANCOVA. Pooled results indicated that the HR changes sig faster during the transient of eccentric exercise than during concentric exercise. The half-response times were 8.3 and 17.5 secs for eccentric and concentric exercise, respectively. Individual HR half-time ranged from 4.2 secs to 27.0 secs. No sig diff existed in the pooled half-response times for VO_2. The respective VO_2 half-response times were 52.8 secs for eccentric exercise and 28.7 secs for concentric exercise. The individual half-times for VO_2 had a range of 10.8 to 50.7 secs. No diffs were found in the rates of change of Q. The half-time for eccentric exercise was 16.2 secs and 15.4 secs for concentric exercise. Individual Q half-times for 3 Ss ranged from 12.5 secs to 41.2 secs.

291. LAMBERT, Peter J. The effect of hand and arm position on aiming accuracy of rapid short and long amplitude movements in the presence and absence of visual feedback. M. S. in Physical Education, 1980, 57 p. (R. W. Christina)

To determine the effect of anchored and unanchored hand and arm position on aiming accuracy for rapidly performed short- and long-amplitude movements (2 mm and 335 mm in amplitude) to a circular target (2 mm in dia) in the presence and absence of visual feedback, % of error and preparation time were recorded. 16 male Ss participated in a 2x2x2x2 (hand-arm position x movement amplitude x visual feedback condition x movement direction) within Ss' design. The factors of hand-arm position, movement amplitude and visual feedback condition interacted such that % of error for short movements did not increase from a situation where visual feedback was present to one in which it was absent. For the long movements there was sig increase in the % of error when visual feedback was removed. Anchored movements produced a lower % of error than unanchored movements, except for the long movement without visual feedback. The analysis of preparation time revealed a tendency for long movements performed in the absence of visual feedback to be initiated the slowest of all movement conditions.

292. LANDIS, Joanne M. The relationship between participation in an industrial fitness program and job satisfaction. M. S. in Recreation and Parks, 1980, 70 p. (F. B. Guadagnolo)

Using the Brayfield-Rothe Index of Job Satisfaction, the investigator examined whether a relationship existed between employee's involvement in a company-sponsored fitness program and job satisfaction. Drawing a random sample of 200 Ss who had participated in the fitness program and an additional 200 non-participants, there were 118 and 107 final responses, respectively. The t-test was used to detect any sig diffs (.05) on each of the 18 items of the Brayfield-Rothe Index and also the variables such as age, education, salary, yrs with company, yrs at current job, and involvement in company-sponsored REC programs. There was no evidence that a relationship (using X^2) existed between a S's engagement in a company-sponsored fitness program and job satisfaction. It was determined that the 2 groups did differ in regard to age, yrs with company, salary and yrs at current job, with the participants scoring higher than the non-participants in all categories. It was also determined that job satisfaction was positively related to educational level and salary.

293. LEBO, Linda A. Audience attention at interpretive presentations as an indicator of satisfaction and information retention. M. S. in Recreation and Parks, 1980, 55 p. (J. E. Elliott)

This study examined the feasibility of using audience attention as an unobtrusive evaluation technique for the field of interpretation. Ss were selected from those attending the interpretive presentation given at the Granite Farm within Gettysburg National Military Park. At 2-min intervals, researchers unobtrusively observed and recorded the attention of each S, as measured by head direction toward the speaker. Following the presentation, Ss were asked to complete a questionnaire evaluating their satisfaction and information retention. Ss were not informed that they had been observed. Statistically sig relationships were found to exist between the following variable correlations: audience attention and presentation satisfaction; audience attention and information retention; and information retention and presentation satisfaction. In each case, the relationship was sig at the .05 level of probability. No sig relationships were found to exist between interpreter satisfaction and any of the other variables. This would suggest that in settings such as the one used in this study, attention, as measured by head direction toward the speaker, may serve as a reliable and effective indicator of audience information retention and satisfaction with the presentation.

294. LERNER, Rhonda L. A profile of medical students' attitudes and opinions toward death and dying. M. S. in Physical Education, 1980, 74 p. (R. Shute)
Comparisons were made between those medical students who had participated in a death education course and those not having such a background in order to explore the need to include a death education course in their professional training. The volunteer Ss (N=194) were enrolled in the Milton S. Hershey Medical Center in Hershey, PA, and were administered a modified version of E. S. Shneidman's "You and Death" questionnaire which appeared in the August 1970 issue of Psychology Today. Over half of the Ss reported never having participated in a death education course prior to or during their professional training. The majority of items on the questionnaire revealed that participants and non-participants in a death education course did not diff sig in their attitudes and opinions toward death and dying. However, Ss who participated in a death education course had fewer negative reactions about their own deaths. Possibly the course had influenced their fears in such a way that the completion of the life cycle did not appear to be so dismal. Furthermore, these Ss and Shneidman's Psychology Today Ss reflected similar beliefs about afterlife, rituals, childhood experiences about death, and autopsies. Concerning the need for death education in the professional preparation of physicians many Ss indicated that death education should be an important part of their total professional preparation.

295. MATECHAK, Carol. A study of attitudes of prospective teachers toward sex education for the educable mentally retarded. M. S. in Physical Education, 1980, 72 p. (W. L. Eck)
The study was conducted at The PA State University to determine if prospective Special Education teachers had a more favorable attitude toward sex education for the EMR student

than those in ELE education. The Ss were enrolled in Special Education classes, ELE HE classes, or ELE PE classes. The Ss were asked to respond to a Likert-scale instrument designed to measure attitudes toward sex education for the EMR student. The instrument was designed for the purpose of the study and was divided into 3 subscales: sexuality of the EMR, sex education in the schools, and personal preparation to conduct sex education classes. 216 cases were analyzed using the computer program LIKRT. Statistics obtained for the analysis of data indicated M, SD, r, F, t, and reliability for each subscale and the total scale. The study rejected the hypothesis that those teachers being trained in the area of Special Education had a more favorable attitude toward sex education for the EMR than those in ELE Education. It appeared, based on the Ss responding that both groups held similar attitudes which were favorable toward conducting sex education programs for the EMR, and both groups felt prepared to conduct sex education programs for the EMR.

296. McCLUSKEY, Katherine L. Utilization of an audio recording device in unobtrusive collection of interpretive data. M. S. in Recreation and Parks, 1980, 124 p. (J. E. Elliott)

The use of a tape recorder was assessed for unobtrusively gathering data on visitors' questions and visitors' use of facilities, without direct taping, while serving as an interpreter in the field. Additionally, questions were analyzed to determine the extent of their relationships with the demographic and physiographic data on the visitors. The technique of repeating items of information to a private tape recorder did not interfere with the visitors' experience; the data could be collected without compromising the quality of the interpreter's performance; and because the visitors were not aware that research was in progress, bias in answering questions was unlikely. Individuals who did not talk to the interpreter were not represented, however, and this exclusion could represent a sampling bias. This study was done during the annual bald eagle migration in Glacier National Park where the researcher served as a volunteer interpretive naturalist stationed at 1 of 2 viewing sites from which eagles, salmon and other wildlife and natural features could be seen. The questions were categorized by the topic of the question (eagles, salmon, research, etc.) or by the type of information sought (life histories of animals, physical descriptions, human interactions, etc.). Comparisons indicated that the questions from men and women were similar. Further, there was no relationship between the viewing site chosen and either the no. of trips the visitor made to view eagles or the age of the visitor. Utilization of a nearby information center was dependent on the viewing site chosen and on the no. of previous visits.

297. MORTON, Lawrence A. The development of an instrument to measure energy use attitudes among junior high school students. M. S. in Recreation and Parks, 1980, 131 p. (B. van der Smissen)
The purpose of this study was to help fill the void created by the lack of evaluative instruments in the field of energy education. 2 pilot instruments were developed using a Likert format, each consisting of 40 statements and certain demographic information. The statements were designed to cover 9 energy content areas which were derived from the analysis of 13 state energy education manuals. Each pilot instrument was administered to 45 students from the Boyertown Area JHS West Center, Boyertown, PA. The data from the pilot instruments were analyzed using the LIKRT computer program to determine adj. item-total correlations and coefficient alpha values. The 20 items selected for the final instrument were all sig at the .05 level and the weighting of the 9 energy content areas was maintained. The coefficient alpha value for the pilot instruments were .719 and .777. The final instrument was administered to 551 students from the same school as in the pilot population. All but 1 of the 20 items on the final instrument was sig at the .05 level and the coefficient alphas value was .755. Based on the foregoing analysis, this energy attitude instrument does discriminate between energy use attitudes of JHS students, both male and female.

298. MOSES, Peggy. The effects of acute and intensive relaxation techniques on hypertensive men. M. S. in Physical Education, 1980, 80 p. (K. G. Stoedefalke)
To determine if acute and intensive relaxation were effective in reducing BP, 10 hypertensive men, aged 37-55, were randomly assigned to 5 treatments of either massage therapy (MT) or progressive relaxation training (PRT). 4 additional hypertensive men acted as controls. The sessions

met as close as every other day as possible and were 40 min in length. In all groups, BP was taken before and after each session. HR and subjective response to treatment were measured only in the MT and PRT groups; therefore, statistical analysis was limited to systolic and diastolic BP changes. A 2-factor ANOVA with repeated measures on SBP revealed sig differences among MT, PRT, and control groups across the first 2 sessions (control data were only available for those sessions). Post hoc comparisons revealed sig diff ($p < .05$) for the MT group as compared to control; however, PRT was not sig diff ($p > .05$) when compared to control. MT and PRT were not sig diff across the first 2 sessions or across all 5 sessions. ANOVA of DBP revealed no sig diffs among groups. It was concluded that the inadequacy of the control group and pre-test diffs between treatment and control groups caused the outcome of treatment effectiveness to be unclear.

299. OWEN, Karen L. The effects of inservice education on the recreation program delivery service in nursing homes in Pennsylvania. M. S. in Recreation and Parks, 1980, 98 p. (P. Farrell)

To fully examine the effects of inservice education on recreators, members of 10 nursing home activity directors associations were randomly assigned to 1 of 2 groups: those attending the inservice session, and those not attending the actual session but receiving the written proceedings by mail. The inservice meeting, entitled "Programming for the 80's", lasted 2-3 hrs. The pre-test was administered to all Ss prior to any treatment; 30 days later the post-questionnaire was mailed. Questionnaires were distributed to obtain data regarding: exp group, pre/post-inservice training; college major, REC/other; exp control; yrs of exp, less than 5 yrs/greater than or equal to 5 yrs; size of nursing home, less than 150 beds/greater than or equal to 150 beds, in relation to an increase of programs; pre/post-inservice training. Results of the Wilcoxon signed-ranks test indicated that the Ss attending the meeting did not differ in the no. of programs offered except in 1 instance. Participants who rated both the director of REC and their ideal recreator highly had a sig increase in the no. of programs compared to those who rated the person in charge low.

300. PARKES, Kevin T. State-of-the-art of accident reporting and analysis procedures and their relationships to accident prevention efforts in state park

systems. M. S. in Recreation and Parks, 1980, 126 p. (M. L. Christiansen)

The assessment of accident reporting and analysis included: their importance to accident prevention planning; identification of the most useful types of accident data and most needed types of accident data in state park systems; the state of accident reporting, analysis, and prevention in their respective agencies; the need for information-sharing systems; and the utility of computer-based systems. The state-level park safety managers' perceptions of various aspects of accident management was also assessed. A mailed questionnaire, accompanied by a letter of endorsement from the National State Park Directors Association, was sent to each of the 50 state park directors. They were instructed to select the person in their respective agencies in charge of state park safety management to complete and return the questionnaire. General conclusions drawn from the study were: there was a variety of approaches to park visitor accident reporting, analysis, and prevention in the state park agencies; and state park safety managers' perceptions of how park visitor accident control should be practiced were in some aspects diff from actual accident practices within their respective agencies.

301. PETERCUSKIE, Gary. Professional football: Four antitrust cases challenging player movement rules. M. S. in Physical Education, 1980, 51 p. (R. A. Smith)

This study historically examined 4 antitrust cases that challenged several of the National Football League's (NFL) restrictive rules governing the market for player services. The rules that were challenged include: the Rozelle Rule, the option rule, and 1-man rule, the tampering rule, the draft rule, and the Standard Player Contract rule. The development of the nation's antitrust laws was traced, and the relationship between the laws and professional football was established. The following antitrust cases were examined: Radovich vs NFL (1957), Kapp vs NFL (1972), Mackey vs NFL (1974), and Smith vs Pro Football (1976). A trend was set in these cases. The courts have refused to apply the *per se* standard of the antitrust laws to current industry practices in professional football. Yet, the courts have found the more restrictive rules concerning player control to be unreasonable restraints of trade. The unreasonable restraints include the Rozelle Rule, Standard Player

Contract, and the draft rule. Despite the progress which players have made, their unique status as athletes still subjects them to restrictions in their individual freedom to sell their services. Restriction of individual freedom employed by the NFL would not be tolerated in other business settings.

302. PIKE, Nancy Lou. Computer simulation of a forward, full twisting dive in a layout position. Ph.D. in Physical Education, 1980, 269 p. (R. C. Nelson)
Through computer simulation, it was determined whether the twisting rotation observed in a dive could be completely produced by the counter rotation of the diver's arms or whether part of the twisting rotating would have to be produced at takeoff. The computer program, which simulated the airborne phase of a twisting dive, was developed using a 4x4 matrix transformation technique and was validated by comparisons with results generated by computer programs based upon force-mass-acceleration analyses. The computer program predicted the translational and angular orientation of the diver's trunk-head-legs segment during the flight phase of its dive. 2 sets of values for each of the diver's initial takeoff parameters were obtained from a search of the available literature on diving. 8 separate dives were simulated in this research project. Only one set of body segment parameters and arm motions was used in simulating all 8 twisting dives. Diff in the somersaulting, rolling, and twisting angular displacements of the simulated divers' trunk-head-legs segments at water contact were explained in terms of the divers' angular momenta. Although none of the simulated divers attained the correct somersaulting, rolling and twisting angular displacements at water contact, the computer results did indicate that given the correct takeoff parameters and arm motions, a diver could perform a forward, full twisting dive in the layout position through the counter-rotation produced by his arms. The diver's final somersaulting angular displacement was a function of the somersaulting angle and angular velocity at takeoff and time of flight, which depended upon his translational velocity at takeoff. The change in magnitude of the diver's roll angle was due to the angular velocities of his arms and amount of twist exhibited. Final twisting angular displacement was a function of somersaulting angular velocity at takeoff and angle of roll. For a diver to attain both a 0.0 rad angle of roll and a 5.3 (2π) rad angle of twist at splashdown,

the wrap position must be held until a twist angle greater than 4.7 ($3\pi/2$) rad is achieved.

303. POWELL, John W. A multivariate epidemiological model applied to injuries to the knee in college football. Ph.D. in Physical Education, 1980, 135 p. (E. E. Hunt, Jr.)

A set of epidemiological and statistical models to aid in the interpretation of risk patterns in sports was developed using data from the National Athletic Injury/Illness Reporting System (NAIRS). College football was chosen for the investigation because it has the largest team enrollment of the sports for which NAIRS collects data. There were an average of 49 college teams over the period 1975-1978 which represented over 17,000 athlete-yrs and 195 team-seasons. The data within football were limited to 592 sig game-related knee injuries which occurred over the 4-yr study period. It was found that the knee inuries that occur in college football have the highest time-loss ratio of all types of traumatic lesions, with a relatively consistent frequency of occurrence revealed yr by yr. As these knee injuries were examined relative to position, activity, and situation using the log linear model, interactions among the variables were established. Those which achieved statistical sig ($p < .05$) were identified as areas for future study. Within this approach, the observed cell frequencies were adjusted to reflect exposure ratios for each variable. This technique provided estimates of risk for each cell in the multidimensional frequency table. The addition of the log linear approach coupled with the use of epidemiological techniques serves as an excellent methodology for sports data interpretation. This study generally revealed thatthe position, activity, and situation at the time of sig game-related knee injury are integral aspects of the occurrence; but that the severity of the injury, as indicated by both the need for surgery and time-loss, and the exact diagnosis of the injury, could not be predicted from these data.

304. RIDDICK, Carol C. The life satisfaction of retired and employed older women: A re-examination of the disengagement theory. Ph.D. in Physical Education, 1980, 76 p. (B. van der Smissen)

A national sample of 994 non-institutionalized females, 65 yrs of age or older, who were either retired (n=851) or employed (n=143) were used as the data base. Life satisfaction was measured by the Life Satisfaction Index. Role disengagement was measured by employment status and by a Leisure Roles Index based on self-reports of time spent in 3 activities. 4 other variables were also considered. Path analysis estimated the direct and indirect effects of the variables on life satisfaction. Findings suggested that for older women, leisure roles was the single most important explanatory variable in life satisfaction, followed by health status, income, employment status and transportation barriers. When controlling for employment status, a diff pattern of relationships existed. For retired older women, life satisfaction was most directly affected by leisure roles, health status, income and transportation barriers. The life satisfaction of employed older women, on the other hand, was sig affected by leisure roles, health status and income. Income had the strongest indirect effect on life satisfaction via its effect on ability to participate in leisure roles. This held for the combined sample and retiree group only. The indirect effects of other variables on life satisfaction were not sig. The Disengagement Theory perspective, as applied to retired as well as employed older women, was not supported.

305. ROMANSKY, Nicholas M. *An epidemiological examination of men's intercollegiate soccer injuries.* M. S. in Physical Education, 1980, 85 p. (K. G. Stoedefalke)

To date, there is relatively little information available on soccer injuries. The purpose of this study was to investigate the distribution and determinants of men's intercollegiate soccer injuries by statistical analysis derived from a 4-yr sample. The National Athletic Injury/Illness Reporting System (NAIRS), a technical surveillance method, was used to obtain the data. Emphasis was directed toward providing a simple baseline description of the risks of injury in a select population of collegiate soccer teams from the seasons of 1975 through 1978. The risks under consideration included: incidence of injury, type of injury incurred, diagnosis and management of injury, period of play when the injury occurred, and whether variations yr by yr were random so that the risks were maintained at a constant level. Since athletic personnel are faced with decisions relevant to their activity, another aim of the study was to inform the supervisors of means of preventing injuries in soccer through deliberate intervention.

306. SHIELDS, Carl D. The tensile strength of bovine femur anterior cruciate ligament tibia preparations. M.S. in Physical Education, 1980, 73 p. (C. A. Morehouse)
This study attempted to develop an acceptable and practical model for preliminary testing of anterior cruciate ligament prostheses for future application in humans. The bovine femoro-tibial joint and anterior cruciate ligament make up a possible model for the human knee joint and anterior cruciate ligament. However, there is very little information available on the mechanical properties of the bovine anterior cruciate ligament or on the methods for preparing and testing bovine femur-anterior cruciate ligament-tibia preparations. 15 bovine femoro-tibial joints were used in load tests for stress, strain, ultimate strength at failure, and ratio of ultimate strength at failure to live body weight. The preparations exhibited 3 modes of failure: by ligament rupture, by tibia fracture, and by tibia avulsion. The ratios of 15.58 and 10.11 newtons per kg of live body weight for ligament rupture and tibia fracture, respectively, fell within the range of ratios for human anterior cruciate ligaments reported in the literature. The bovine anterior cruciate ligament can neither be ruled out completely nor conclusively considered acceptable as an adequate model for the human anterior cruciate ligament from this investigation alone. The results did, however, indicate that further study of the bovine as a possible model for the human would be worthwhile.

307. SUMMA, Frederick W. III. The effects of a six-week beginning instructional swimming program in a day camp on the self-concept of trainable mentally retarded children. M. S. in Recreation and Parks, 1980, 103 p. (H. M. Lundegren)
It was hypothesized that the acquisition of competency in beginning swimming skills would result in a sig increase in the self-concept of TMRs and that Ss who learned to swim as the result of the swimming instruction would have a sig higher level of self-concept than Ss who failed to learn. Further, it was hypothesized that there would be a sig positive relationship between swimming competency and the self-concept of TMRs at the end of the swimming program. Ss were 13 TMR campers, 9 male and 4 female, all of whom lived in suburban Pittsburgh, PA and attended the South Hills Community Y.M.C.A.'s Camp A.I.M. day camp. Each S participated in a 1 hr, 3 times per wk program taught by

the investigator and 3 assistants. Each S was pre- and post-tested to assess self-concept using the Fisher Self-Concept Picture Test. Swimming competency levels were based on the Y.M.C.A. Exceptional Progressive Swimming Program. The Wilcoxon matched-pairs signed-ranks (T) test was used to compare changes in self-concept within groups from pre- to post-test. The Mann Whitney U Test was utilized for between group comparisons for both the pre- and post-test self-concept scores. Spearman rank order correlation was used to analyze the relationships between swimming competency and self-concept. The results were as follows: beginning swimming skill competency, acquired in the instructional program, did not result in a sig increase in self-concept scores. The higher observed self-concept scores of the Ss who learned to swim were not statistically sig.Due to the small N, the correlation of .69 between swimming competency and self-concept at the end of the 6-wk program was not sig. More than 50% of the TMR s passed the Y.M.C.A. Beginner A.I.M. Swimmer test.

308. SZELA, Judith A. Attitudes of activity workers toward the well elderly before and after participation in a recreation experience. M. S. in Recreation and Parks, 1980, 106 p. (H. M. Lundegren)

A subproblem of this study was to adapt an instrument designed to measure attitudes toward older people. 39 activity workers participated in a REC experience with older people at senior citizen centers. The Ss had previously known an elderly person, many in a REC experience, and demonstrated positive attitudes toward older people in the pre-test results. Although the attitudes appeared to become more positive according to the post-test scores, it was not a sig increase. A sig relationship was found to exist between the Ss' satisfaction in the REC experience with older people and their stated willingness to repeat the experience with the elderly at a future date.

309. WILLIAMS, Keith R. A biomechanical and physiological evaluation of running efficiency. Ph.D. in Physical Education, 1980, 347 p. (P. R. Cavanagh)

Biomechanical and physiological measures of running performance were obtained for 31 Ss running at 3.57 m sec^{-1} in order to describe the relationship between mechanical aspects of running style and physiological efficiency based on submax VO_2. Physiological measures were obtained for VO_2

while running on a treadmill, max VO_2, muscle fiber composition, and elastic storage of energy. Biomechanical measures for overground running included 3-dimensional kinematics from cine film and ground reaction forces and center of pressure data from force plate techniques. A new approach to the calculation of mechanical work during running from a segmental approach was developed which accounted for the diff metabolic cost of positive and negative work. The mechanical work rates calculated were found to be positively related to physiological efficiency. Transfer of energy between body segments was the factor most important in determining mechanical work rates. Work due to the center of mass alone was 10% less than that from the segmental analysis. Multiple regression, correlation and ANOVA analyses identified various parameters of running style which were important to physiological efficiency and to mechanical efficiency.

310. WILLSON, Thomas E. A content analysis of environmental problems in basal reading textbooks. D. Ed. in Physical Education, 1980, 210 p. (B. van der Smissen)

The Environmental Analysis Recording Form, developed by the author, was used to assess the type, extent, and characteristics of environmental problems in the literature of 64 elementary basal reading textbooks from 6 major textbook series. 1.9% of the literature sampled contained environmental problems, of which the greatest proportion involved problems of wildlife and human settlements and the least concerned energy and toxic substances. The environmental problem literature was mainly fictional, information focused, urban and rural settings and local. Children experienced problems while adults solved problems. The main characters were most often children and adults combined, males, and Anglo-Americans. Females were primarily main characters with problems of wildlife. Native American main characters experienced environmental problems, but were not problem solvers nor activists. Afro-Americans were only main characters in urban settings. A X^2 test with a .05 level of acceptance indicated statistically sig diffs among grade levels and textbook series in respect to all characteristics of environmental problem content. All of the inter-characteristic relationships were sig except the relationship between types of literature and involvement of adults.

311. YATES, James W. The effects of muscle fiber composition and static and dynamic exercise on the torque-velocity relationship. Ph.D. in Physical Education, 1980, 139 p. (E. Kamon)

The effects of 2 static and 2 dynamic exercise bouts on the shape of the torque-velocity (T-V) relationship of the knee extensors was studied in 24 males (ages 21 to 38 yrs). The T-V relationship was determined on a Cybex dynamometer using 10 equally spaced velocities ranging from 0 to 33 °/sec. Each volunteer completed a stress test, an orientation and 5 test sessions, and a muscle biopsy. At each test session, the T-V curve was plotted before and after 1 of the following tasks: maintenance of 20% of maximum voluntary contraction (MVC) for 2 min, maintenance of 40% of MVC to exhaustion, 29 to 50 slow dynamic contractions, and 70 fast dynamic contractions. The Ss were divided into 3 groups based on muscle fiber composition: fast-twitch (n=10), intermediate-twitch (n=8), and slow-twitch (n=6). The results indicated that the fast-twitch and intermediate-twitch groups were able to exert a sig greater % of their MVC at velocities greater than 90 °/sec than could the slow-twitch group. Both static and dynamic exercise altered the T-V curve, with the greatest changes occurring at the high velocities.

312. ZANG, David W. Sport and society in ancient Sparta. M. S. in Physical Education, 1980, 86 p. (J. T. Thompson)

From the beginnings of the Spartan state ca. 750 B.C. to the later yrs under Roman influence, Spartan athletics and PE moved through various stages of development which revealed and amplified the changing character of the city-state's cultural foundations. Before acceptance of the reforms of the lawgiver, Lycurgus, Sparta's development was not unlike that of the other Greek city-states. Most sports stressed individual military skills, although the most important of the early Spartan festivals, the Carnean and the Hyacinthian, also featured unique events of great religious importance. The Lycurgan reforms established Sparta's lasting identity as a military state. Sport and PE became valued as training regimens for the army. Several Spartan contests became events of exaggerated brutality in the Roman period. While examining the relationship of sport to the cultural and historical development of Sparta, evidence is presented that challenges the traditional theory of the origin of the state. The study also questions some popular notions of early Greek sport as well as the prevailing view of Spartan barbarity in training activities, and offers a suggestion that the belief of other Greeks in Spartan invincibility was based as much on illusory facade as on real physical prowess.

PURDUE UNIVERSITY (C. J. Widule)
WEST LAFAYETTE, IN

313. FORTNEY, V. L. The kinematics and kinetics of the running patterns of two-, four-, and six-year-old children. Ph.D. in Physical Education, 1980, 121 p. (C. J. Widule)

314. HULIBA, N. D. A mechanical analysis of the approach jump and spike of intercollegiate women volleyball players. M. S. in Physical Education, 1980, 132 p. (C. J. Widule)

315. KREISWORTH, V. The identification of personality traits of drinking and non-drinking female college students. Ph.D. in Health, 1980, 94 p. (C. H. Veenker)

Undergraduate female students in 3 large midwestern universities were studied to determine if there is a difference in the personality traits of drinking and non-drinking female college students. Alcohol behavior was determined by a self-report questionnaire, and personality traits were assessed by the Cattell 16 PF. Data were subjected to two-way ANOVA, MANOVA, and discriminant function analysis. Results showed that female drinkers tended to be more assertive, more happy-go-lucky and more shy while non-drinkers tended to be more humble, more sober and more conscientious.

316. LANGLEY, D. J. Multivariate relationships among cognitive, motor, and personality variables associated with two discrete coordination groups. M. S. in Physical Education, 1980, 100 p. (A. H. Ismail)

317. NELSON, W. N. Biomechanical analysis of novice and skilled female rowers. M. S. in Physical Education, 1980, 86 p. (C. J. Widule)

318. PENSTONE, A. E. Effects of residence type upon participation in outdoor recreation activities. M. S. in Recreation, 1980, 99 p. (W. F. Theobald)

319. RUBLEE, D. A. A critique of the biomedical definition of health. Ph.D. in Health, 1980, 113 p. (R.W. Seehafer)

The study involved a critical examination and analysis of the biomedical expression of health as the freedom from physical disease. Criticism of this definition of health culminates in an effort to reformulate a definition of health in a more comprehensive and wholistic manner, one which takes into account mental and social, as well as physical components. Evidence is provided that the biomedical definition eliminates from consideration the experiences of emotion, embodiment, and relation to others by use of the doctrines/notions of physicalistic reductionism, mind-body dualism, and value-freedom regarding disease. The biomedical definition is argued to be unacceptable on the basis of its identification with these doctrine/notions, and it is toward these fundamental characteristics that critical analysis is directed. Physicalistic reductionism is argued to fail in adequately explaining mental states. Mind-body dualism is criticized as being unable to account for the concrete, lived experience of the body as the body presents itself to the one whose body it is. Disease as a value-free phenomenon is criticized on the basis of the inability to reduce health exclusively to biology or normality and the failure to allow for the influence of social behavior.

320. SFORZO, G. A. Muscle soreness after exercise: The effects of early training with concentric contractions. M. S. in Physical Education, 1980, 34 p. (D. R. Lamb)

321. STUREK, M. S. Role of somatomedin-like activity in work-induced muscular hypertrophy. M. S. in Physical Education, 1980, 101 p. (D. R. Lamb)

322. WHITEHILL, L. L. The relationship between parental affective orientation toward sexuality and responses to sex-related situations of preschool-age children. M. S. in Health, 1980, 54 p. (W. L. Yarber)

Parents who had preschool-age children attending 3 nursery schools in the Lafayette, and West Lafayette, IN area participated in the project. Scores from the questionnaire were totaled into groups of the entire male and female population, the male parents, and the female parents. A sig relationship was found for only one population group: the male parents' affective orientation toward sexuality was sig related to their askability and approaches to sex-related situations. Males with the more positive orientation toward sexuality responded in the most desirable ways and those with the more negative orientation responded in the least desirable ways. Conflicting evidence was established as to the relationship between parental affective orientation to sexuality and how parents respond to questions involving sex-related experiences of preschool-age children. No sig relationships were found for parents as a group or for the female population; but a positive r was found for males. Affective orientation toward sexuality for male parents apparently is an important determinant in their askability and approaches to sex-related situations of their preschool-age children.

SAN JOSE STATE UNIVERSITY (E. L. Lindquist)
SAN JOSE, CA

323. HAYNES, J. H. A rating instrument for the evaluation of human locomotion. M. S. in Physical Education, 1980, 81 p. (J. Douglas)

Support was provided for a psychometrically sound instrument which rates human locomotion. An operational definition was selected, and a rating checklist derived directedly from that definition. The checklist was designed so that walking performances more closely resembling the operational definition would score highest. 2 trials were used to assess reliability. 3 raters assessed objectivity. Ss were 22 women and 14 men (X=24.58 yrs). Ss wore dark clothing and practiced before walking naturally in front of cameras filming side and front views. 30 Ss volunteered to perform a second trial 1 wk later. Photographs were used in conjunction with the checklist. The trial-to-trial r = .68. The degree of agreement among raters was r = .53 (p .05). Logical and content validity were supported. The rating instrument was found to be unacceptabled for reliable and objective use under the study conditions. Since many of the factors which led to the conclusion of unacceptability are correctable, further investigation is encouraged.

324. KRAVITZ, L. R. A comparative analysis of variable time-controlled proprioceptive neuromuscular facilitation slow reversal-hold-relax stretching to active assistive stretching. M. A. in Physical Education, 1980, 57 p. (C. W. Jennett)

Active assistive stretching and PNF stretching were compared focussing on their abilities to improve hip joint flexibility. College females (n = 58) from the dance aerobics class were pretested in the sit-and-reach and then randomly divided into 4 groups: 1 active assistive and 3 PNF groups. PNF groups I, II and III varied the isotonic contraction stage for 22, 13, and 6 sec holds respectively. 3 55-sec stretch bouts were performed by all groups per treatment with the aid of a training box. Ss were post-tested in the sit-and reach after a 6 wk training period of 2 treatments per wk. Sig gains ($p < .01$) in flexibility were obtained by all groups. ANCOVA indicated no sig diffs ($p > .10$) between any groups in flexibility improvement.

325. RICHARDSON, A. A retrospective look at the Negro leagues and professional Negro baseball players. M. A. in Physical Education, 1980, 240 p. (W. F. Gustafson)

A study in the narrative form of oral histories of the careers of 6 ex-negro league players and 1 female clubowner (age = 63-83 yrs). Questionnaires were sent to 91 ex-Negro league players nationwide -- 48 were returned (X age = 69). The focus of the study was to ascertain players' feelings and thoughts on playing in the Negro leagues prior to 1946. The issues dealt with salaries, estimates of performance, Hall of Fame selections, interracial competition, traveling accommodations, and reasons why black were not allowed to play in the major leagues.

326. SHROCK, D. L. A history of the track and field program at San Jose State University, 1922-1942. M. A. in Physical Education, 1980, 118 p. (W. F. Gustafson)

The study was delimited to the male track and field program at San Jose State College during the period from 1922, the beginning of the program, to 1942, when competition was curtailed because of World War II. The 22-yr period was subdivided into 8 chapters determined by head coaching changes. Emphasis was placed upon performances of outstanding individuals as well as team efforts. The period was characterized by the emergence of the team from local to national competition. The study further explored the effects on the program of the following factors: budgets, life-styles, modes of travel, equipment, and personalities of coaches and leading athletes of the period. Printed sources included school newspapers, yearbooks, the San Jose Mercury-Herald, and several books dealing with college history. Interviews with and questionnaires obtained from coaches, athletes, boosters, and media personnel of the period were also used. Difficulties were encountered in securing first-hand information because of the death of several coaches in addition to the absence of athletic department records and of financial records of the associated students who were primary subsidizers of athletics at the time.

SOUTH DAKOTA STATE UNIVERSITY (F. M. Oien)
BROOKINGS, SD

327. CHAPMAN, P. The effects of proprioceptive neuromuscular facilitation stretching techniques on college age football players. M. S. in Health, Physical Education, and Recreation, 1980, 77 p. (J. M. Booher)
College age males (N=23 for season-long study and N=15 for within-day test) competing in college football participated in the study. Treatments consisted of 6 sessions per wk for the entire FB season. PNF techniques were used and held for 3 sets of 5 sec each. Test-retest procedures, pre-, post-, and 5 wk tests and pre-, post-, 15 min, and 30 min tests were analyzed using Pearson r and dependent t analyses. M change diff were analyzed using ANOVA and Tukey's w analyses. Sig increases ($p < .05$) in shoulder flexibility, sig decreases ($p < .05$) in lower back-hamstring area (sit and reach) and no sig changes in groin area were seen after season-long PNF treatments. Sig increases of shoulder, groin, and lower back-hamstring area were seen immediately after treatment and maintained at least 30 min during within day tests.

328. HELLING, T. R. Effects of isotonic training, isokinetic training, and jumping practice on the vertical jump performance of college age women. M. S. in Health, Physical Education and Recreation, 1980, 65 p. (B. C. McKeown)
63 college age female Ss were randomly assigned to 3 training programs (isotonic, isokinetic, jumping) and 1 control

group. Each S was given 2 pre-tests and 2 post-tests on a modified vertical jump test. Ss trained 3 days per wk for 6 wks. Training for the isotonic group was performed on the Universal weight machine, the isokinetic group utilized a Leaper machine, and the vertical jumping group utilized tape markers hanging from the ceiling. Test-retest reliabilities and reproducibilities were analyzed using Pearson r and dependent t analyses, respectively. All tests were found to be reliable and reproducible. The ANOVA procedure, using the M diff between pre- and post-test values, was utilized to determine if sig diff had occurred among groups. A subsequent test, Tukey's w procedure, was used as a post hoc analysis to determine between group sig diff. The results of the multiple comparison test indicated that the isokinetic and isotonic training groups were the only treatments to sig improve vertical jumping ability. It was also found that the isokinetic training group increased sig more on vertical jumping ability than did the isotonic training group.

329. OLSEN, C. E. The effects of a set circuit weight training program on strength and muscular endurance of college age men. M. S. in Health, Physical Education, and Recreation, 1980, 60 p. (F. M. Oien) College age males (N=42), enrolled in weight training classes, participated in the study. Pre- and post-tests for 1 RM strength, absolute muscular endurance and relative muscular endurance were given for the bench press and leg press. Treatment consisted of 2 workout sessions per wk for 7 wks. In each session, Ss were required to complete 2 sets of 10 exercises. Both sets of an exercise were completed before a S moved to the next activity. A work/rest ratio of 20 sec/10 sec was used. Test-retest procedures and pre- and post-test mean changes were analyzed using Pearson r and dependent t analyses. M changes between pre- and post-tests for 1 RM strength in the bench press and leg press, absolute muscular endurance in the bench press and leg press, and relative muscular endurance in the bench press were sig ($p < .05$). Non sig changes were found for the test of relative muscular endurance in the leg press ($p > .05$).

SOUTHEAST MISSOURI STATE UNIVERSITY (R. F. Kirby)
CAPE GIRARDEAU, MO

330. BIEHLE, Karen S. Comparison of control while executing the curled finger and the clenched fist method

of the forearm pass used in power volleyball. M.A. in Teaching, 1980, 58 p. (R. F. Kirby)

Ss for the investigation were 40 HS girls in grades 9-12 enrolled in the Jefferson County Summer HS Volleyball Study. The Ss met for 5 instruction-practice sessions on the forearm pass and for 1 testing session. The tests used to compare the 2 methods were the Helman Bump to Self Test and the Margrabe Passing Test. A t-test between correlated Ms was used to determine if one method was better than the other. No sig diff between the 2 methods of passing was found when the ball was directed to a specific target area. However, when the raw scores for the Helman Bump to Self Test were analyzed, a t of 2.34 indicated that the curled finger method of passing was sig better than the clenched fist method when the ball was continuously passed into the air. Using T scores to combine data of the 2 tests, no sig diff was found between the 2 methods of forearm passing.

331. LAWLER, Michael P. A study of knowledge obsolescence revealing the need for certified athletic trainers in junior-senior high schools. M.A. in Teaching, 1980, 70 p. (J. E. Schneider)

The study sought to provide evidence that certified trainers are needed in JHS-SHS by revealing knowledge obsolescence in the field of athletic training among non-certified athletic trainers in the state of Missouri. A questionnaire consisting of 30 MC questions was developed by the investigator. The questionnaire was mailed to 200 randomly selected coaches in the state of Missouri. A total of 96 coaches returned the questionnaire. Measures of central tendency and variability were tabulated. It was concluded that 75% (72 out of 96) of the respondents, did not meet the established standard of competency of 70% correct answers and could be considered obsolete in their understanding of current knowledge in the field of athletic training.

332. MARGRABE, Janice K. A forearm passing test for high school age students. M. A. in Teaching, 1980, 48 p. (D. R. Hamer)

Ss were 60 boys and 60 girls SHS students. In establishing the validity of the Margrabe Forearm Passing Test, the AAHPER Passing Test was administered. The validity coefficients obtained were: AAHPER with Margrabe (whole sample), r = .87; AAHPER with retest of Margrabe, r = .87; AAHPER with Margrabe (male sample), r = .89; AAHPER with Margrabe (female sample), $r = .92$. In establishing the reliability of the Margrabe Test, the test retest method was utilized. The total scores from the two test administrations were then correlated through the use of the intraclass correlation. The resulting coefficient was $R = .84$. The objectivity of the Margrabe Test was established by correlating the scores given by the investigator and by the regular physical education teacher for the same performances ($r = .97$). The time necessary to administer the test was approximately 2 min/S. Additionally, only 1/2 of a regulation volleyball court, 2 standards, 30' rope, tape and several volleyballs were required to administer the test. It was concluded that the Margrabe Forearm Passing Test is a valid, reliable and objective tool for measuring skill in executing the volleyball forearm pass. The Margrabe Test is also economical in terms of space, time and equipment.

333. McSPADDEN, Galen W. Comparison of the velocity of baseballs thrown from the stretch and windup by relief pitchers and starting pitchers in the major leagues. M. A. in Teaching, 1979, 46 p. (R. F. Kirby)

5 starting pitchers and 5 relief pitchers who participated in 6 randomly selected games at Busch Memorial Stadium in St. Louis were utilized as Ss for the investigation. A radar gun was used to measure the ball velocity and a chart was devised to record the game situation for each pitch. No sig diff ($p > .05$) was found between the velocities of baseballs thrown from the stretch or windup position by the combined group of starting and relief pitchers. The investigator concluded that in these major league games the Ss did not throw with any greater velocity from the windup position than from the stretch position.

SOUTHERN ILLINOIS UNIVERSITY (Ron Knowlton)
CARBONDALE, IL

334. BANDY, Nancy L. An assessment of Title IX compliance in interscholastic girls' basketball programs in public high schools in southern Illinois. Master's thesis in Physical Education, 217 p. (C. West)

Ss were 94 head girls' varsity basketball coaches from 64 Class A and 30 Class AA public SHS in southern IL. Data were collected through questionnaires and analyzed through descriptive statistics which included means, standard deviations and percentages and t-tests for independent samples. Equal opportunity in boys' and girls' basketball programs was found in the following areas: schedule of practice times for separate facilities; travel and per diem allowance provision of competitive facilities; provision of supplies; provision of medical and training facilities; release time for coaches; extracurricular activities sponsored by coaches; responsibility for the scheduling of varsity games and for the hiring of varsity officials; and provision of printed basketball schedules. Unequal opportunity in boys' and girls' basketball programs was found in the following areas: no. and types of sports offered; levels of competition; schedule of games and tournaments; provision of locker room, practice facilities and equipment; budgets; no. of coaches; salaries of coaches and of officials; and school newspaper coverage. In all areas of inequality, boys' basketball programs were superior to girls' basketball programs.

335. BROWN, Katharine A. A cinematographic analysis of selected kinematics of the back crawl stroke. M. S. in Physical Education, 1980, 120 p. (L. A. Good)
The back crawl stroke, as performed by one intercollegiate female athlete, was filmed using a high speed LoCam camera. The S was tested for several anthropometric and fitness parameters in order to identify her as thoroughly as possible as a basis of comparison for future research. The S was filmed from the left and right sides, and head-on and foot views. The film trials were analyzed independently for selected kinematic factors: time and average velocity of the armstroke cycles and phases; time of the kick cycles; stroke patterns of the hands; horizontal and vertical displacement, and horizontal velocity of the body; angular displacement and velocity of the upper and lower extremities; the contribution of individual segments to overall body velocity; the synchronization of the upper and lower extremities during a stroke cycle; the max degree of shoulder roll off the horizontal; degree of flexion at the elbow at the deepest elbow position; and the displacement patterns of the feet. The kinematics found in this study were similar to the results of earlier research and the stroke technique of the S was similar to the techniques suggested by current coaches and educators in the field of aquatics.

336. CATER, Monte E. A study of choice reaction and movement times in response to specific visual stimuli for

high school football players. M. S. in Physical Education, 1980, 71 p. (J. Wilkinson)

15 simple reaction time (RT), movement time (MT), and total time (TT) measurements were taken on 20 SHS football players using Dekan Performance Analyzers. Ss were tested for visual key recognition for 5 trials each to the left, right, and forward for a distance of 10 ft. Sig diff were found between the directions left, right and forward. t-tests revealed sig diff for right over left and right over forward in RT; right over left in MT; and right over left and right over forward in TT. No sig diff was found for left vs. forward in RT time; right vs. forward and left vs. forward in MT; and left vs. forward in TT.

337. HAMILTON, W. Richard. The prediction of swimming performance from practice time and state anxiety measures in collegiate male swimmers. Master's thesis in Physical Education, 76 p. (J. Thirer)

Swimming performance during practice was compared to competitive swimming performance for 17 male college swimmers. S's anxiety was evaluated prior to practice (PA) and meet (MA) situations using the Spielberger State Anxiety Inventory. Anxiety scores were compared with S's average time (avgtime) during competition and during practice. The criterion was a set of 5 100 yd swims on a 3 min. work/rest cycle. Through ANOVA, it was determined that the Avgtime during practice provided the best predictive power and the strongest relationship to competitive swimming performance. This was evidenced by R^2 values of 0.94, 0.83, 0.81 for Avgtime. Measures of PA and MA were not found to contribute sig to predicting competitive or practice performance as R^2 values for PA were .01, .02, and .001, and MA were .06, .06, and .001 for the 3 measures of PA and MA taken. Additional analysis of anxiety levels revealed no sig diff between PA and MA. Anxiety data from this study did not substantiate the inverted-U hypothesis.

338. HOUSEWORTH, Steven D. Identifying potential running/exercise program dropouts by means of personality traits characteristics and state/trait anxiety. Master's thesis in Physical Education, 68 p. (J. Thirer)

Comparisons were made between dropouts and non-dropouts of running/exercise programs across selected psychological indices. Personality trait characteristics were obtained from the Edwards Personal Preference Schedule (EPPS), and state/trait anxiety was obtained from the Spielberger State Trait Anxiety Inventory (STAI). Physical performance levels for non-dropouts were established using Ss' performance on a 12 min. run, 1/2, 1, 2, and 3 mile runs. MANOVA, ANOVA, discriminant analysis and Newman Keuls tests were used to analyze the data. MANOVA revealed sig diff between dropouts, non-dropouts and various performance levels across scores from the EPPS and STAI. ANOVA revealed the personality variables of Succorance, Endurance and Change as being sig discriminators from the EPPS measures, and state/trait anxiety as being sig diff between performance levels of non-dropouts. Overall, dropouts possessed less endurance, needed more outside encouragement and had greater need for change than did adherers. Among adherers, poor performers possessed sig higher trait anxiety scores than did more successful performers. Discriminant analysis correctly classified 51.64% of all Ss utilizing the selected psychological indices and indicated an interaction effect among the variables of Dominance, Abasement, Order and Nurturance which was influential in classifying Ss according to performance levels.

339. KELLY, Denise E. A comparison of sex-role orientations and attitudes toward the role of women among female participants in team and individual sports. Master's thesis in Physical Education, 152 p. (C. West)

Ss were 92 female athletes who competed for Southern Illinois University at Carbondale. Masculinity and femininity scores and sex-role orientations were established through use of the BSRI. Using the AWS, scores were obtained for each S to describe attitudes toward the role of women in society. Comparisons of masculinity, femininity and AWS scores as well as patterns of sex-role orientation were made between participants of team vs. individual sports, among participants in 10 sports and between the athletic sample and selected normative samples. ANOVA, X^2, t-tests for independent samples and r were used in the analysis of data. Results indicated no sig diff in patterns of sex-role orientation and attitudes toward women between participants in team or individual sports or among participants in the 10 varsity sports. Ss in this study scored sig higher on measures of masculinity, femininity and AWS than selected normative samples. Sig relationships were found between AWS and masculinity scores for team sport participants and the total group and between

AWS and femininity scores for individual sports participants and the total group. Female athletes scoring high on the AWS tended to be classified as androgynous or masculine while athletes scoring low on the AWS tended to be classified as feminine or undifferentiated.

340. MARTIN, Robert G. The football helmet: A historical perspective from 1860 through 1979. M. S. in Physical Education, 1980, 76 p. (C. J. Ferguson)
Data were obtained through interviews with 13 persons, review of literature, investigation of records at the college and professional football halls of fame and sporting goods companies. Photographs of helmets at the Professional Football Hall of Fame in Canton, Ohio, were taken to show changes in the helmet. Internal and external criticism of data were employed. It was concluded that continued change in the football helmet from 1860 through 1979 was primarily the result of an effort to increase protection of players from injury. Evidence also supported that continued change in the materials utilized in the construction of the football helmet was primarily an effort to solve problems in relation to ventilation, absorption of blows and a more comfortable fit.

341. MEDFORD, Pamela R. The construction of an inventory for measuring player-coach interaction. M. S. in Education, 1980, 92 p. (J. L. Thorpe)
From the original 81 adjectives, 23 were selected for use in the Medford Player-Coach Interaction Inventory (MPCII). Ss utilized in the original data were 9 women's teams and their coaches from SIU. Data were collected through 3 forms of the MPCII: player's form, coach's form and the validity form. Data were analyzed by correlation coefficients and the Spearman-Brown formula. Sig relationships ($p < .10$) were obtained among the adjectives, with few exceptions. Coefficients from the total scores between Day One and Day Two indicated stable scores ($r = .87$). Validity was studied by asking Ss to rate each adjective on a 5-point scale as to its predictive value. The MPCII was valid by the standard set, that is, each adjective received a rating above the mean of 3.0 on a 5.0 scale. 2 adjectives were revised in the recommended final version of the MPCII.

342. RONGSTAD, Mark C. An analysis of factors influencing the formulation of roster size limitation policy

in Kankakee Valley Conference Member High Schools. M. S. in Physical Education, 1980, 104 p. (J. Wilkinson)

Specific factors influencing the formulation of roster size limitation policy, commonly known as "cutting", were analyzed within a select interscholastic athletic conference located in north central IL. The principal research method utilized was the personal interview method, aided by factor lists developed from data obtained in a pilot study of 25 IL SHS of 200-800 students. Responses from the personal interviews were recorded by a Certified Shorthand Reporter (C.S.R.) and analyzed, along with a sub-study examining student-athlete attitudes toward roster size policy at their schools. Using the Kendall Coefficient of Concordance (w), the ADs' (n=10) rankings of the 18 factors were sig related ($p \leq .05$). Player-Coach Ratio was ranked of highest importance when formulating roster size limitation policy. Factors identified as Individual Coaching and Athletic Philosophy, Financial, and General Educational Philosophical Factors were ranked of medium importance, while Intramurals and Student Oriented Factors were ranked least important. It was concluded that decisions in regard to roster size at SHS should primarily take into consideration the no. of athletes participating in a sport, and student input should play a sig role in determining roster-size limitation policy.

343. SUMMERS, David A. The effects of high depression scores on the performance of college athletes and nonathletes on two motor performance tasks. Master's thesis in Physical Education, 70 p. (J. Thirer)

Comparisons were made between high depression (HDS) athletes and HDS non-athletes, low depression (LDS) athletes and LDS non-athletes based upon Ss' performances on selected motor tasks. The 2 motor tasks used were pursuit rotor (PR) and response time (RT). The Zung Self Rating Depression Scale (SDS) was administered to 111 male, college Ss as an evaluation of depression levels. 12 Ss from each group were randomly selected to undergo testing on the RT and PR apparatus. ANOVA supported the hypothesis that athletes performed sig better than HDS Ss on the PR task. ANOVA also indicated that 41% of the variance was accounted for by the LDS-HDS variables, while the variance accounted for by the athletic variable was not sig. The results revealed that depression affects PR performance more so than does athletic classification. However, athletic classification effects RT more so than does depression classification.

344. TAHAMONT, Maria. *Cardiac output responses of able-bodied and wheelchair-confined individuals to wheelchair exercise*. Ph.D. in Education, 1980, 135 p. (Ronald G. Knowlton)

The cardiac output (Q) responses of able-bodied (AB) and wheelchair-confined (WC) individuals to wheelchair exercise (WCEX) were compared. 9 WC and 9 AB Ss, 3 male and 6 females in each group, performed a progressive, discontinuous test for max responses to WCEX, and 2 sub-max tests, one at 50% and the other 80% of max aerobic power. M Q was higher ($p < .05$) for AB than WC across submax and max workloads. At 50%, the WC Ss had higher heart rates (HR) than the AB Ss; at 80% the WC men had higher HR than the AB men, while the AB women had higher HR than the WC women. Blood ph dropped and lactate increased in response to WCEX. The WC Ss demonstrated a smaller shift in plasma volume for both submax workloads than did the AB Ss, as did both groups of women compared to the men. It was concluded that the WC Ss were more efficient, in terms of cardiovascular responses, than the AB Ss performing WCEX.

345. WILCOX, Patricia J. *Events in movement: A creative study of the relationships between modern dance and sports*. Master's Thesis in Physical Education, 68 p. (J. Thirer & L. Kostalik)

The present investigation utilized choreography as a means of discovering and displaying possible analogies between dance and specific sport forms. The primary purpose was to study the basic movement, rules, and strategic fundamentals of 4 sports (archery, fencing, karate, and racquetball) and to choreograph a performance based upon these movements. This served not only for analysis of dance-sport parallels, but also for introducing dance as a means of communication and expression through problem-solving techniques. Each dance contained the abstraction of the sport fundamentals and a section in which the dancers were directed to abstract set movements from a choreographed phrase. Alterations included fragmentation as well as level, direction, rhythm, tempo, and dynamic changes. The project results produced relationships between modern dance and sport. The relationships were founded in physical balance, similarity of time and force movement, and the interplay of body shape and spatial design. The motion inherent in each sport provided movement images which enabled the choreographer to design movements that were characteristic of dance. The choreographer's statement in movement was reflected by her selection, organization, and manipulation of the compositional elements of dance. Due to the creative process itself, this thesis produced 2 choreographic methods in which the relation of dance-art through the medium of sport was achieved.

SPRINGFIELD COLLEGE (William J. Sullivan)
SPRINGFIELD, MA

346. BARBARICH, Joan E. A study of visual feedback on learning the volleyball forearm pass. D.P.E., 1980, 91 p. (J. Parks)
Ss (N = 160) for this investigation were 7th and 8th grade males and females who had no previous experience with the volleyball forearm pass. All Ss practiced the volleyball forearm pass 3 times per wk. for a period of 3 wks. 80 Ss received visual feedback in the form of targets while the other 80 Ss did not receive targeted visual feedback. All Ss were tested for performance on the forearm pass once each wk. The design was a 2 (feedback condition) x 2 (sex) x 2 (7th & 8th grade) x 3 (testings) with repeated measures on the last factor with ANOVA used to analyze the data which resulted in the following conclusions: Conventional methods of teaching the volleyball forearm pass are as effective as teaching with augmented visual feedback. Boys are better performers of the volleyball forearm pass than girls. Beginning volleyball players do learn to perform better over a mini-session unit.

347. CRAVEN, Ann P. The perception of social and coaching self concept of coaches. D.P.E., 1980, 100 p. (B. Jensen)
Male (N = 56) and female (N = 23) coaches from 9 private and 4 public colleges in CT were administered the Gough Adjective Check List 2 times, once for social self-perception and once for coaching self-perception. Data were treated by r and Wilks' Lambda converted to Hotelling's T^2 converted to an approximate F. Based upon the analysis, the following conclusions were drawn: There is a relationship between the social and coaching self-perceptions of collegiate coaches indicating that the coaches tend to perceive themselves in a similar manner in both situations. Male and female coaches perceive themselves similarly in high

competitive coaching situations. Male coaches and female coaches perceive themselves as different in everyday social situations.

348. FERGUSON, Bonnie Jill. The grid: A means of determining competitive state-trait anxiety levels? M. S. in Physical Education, 1980, 72 p. (B. Jensen)

The Ss were 12 male baseball players and 11 female softball players at Springfield College. All were administered the Sport Competition Anxiety Test and the Grid (6 times to obtain a baseline score) during team meetings prior to the competitive season. Also, the competitive state anxiety test and the grid were administered at each specific practice 1 hr prior to competition. Data were analyzed by r and t. The conclusions were: grid scores for men and women do not correlate in an inverse manner with competitive trait anxiety nor with competitive state anxiety. Trait and state anxiety do not differ between men and women. Grid scores for men do not differ from those of women either prior to the competitive season or prior to a competitive game.

349. LAMBERT, Margaret. A comparison of student attitudes in traditional and selective physical education programs. M. S. in Physical Education, 1980, 84 p. (J. Parks)

The Kenyon Attitude Toward Physical Activity (ATPA) Scale was administered to 390 sophomore students in a selective P.E. program and 368 freshman students in a traditional PE program in Winona, MN. Data were treated by t and MANOVA to determine diffs between grades, sex, area of residence and level of athletic participation. The conclusions were: there are no diffs in attitude between 9th and 10th grade students, i.e., the 2 types of programs. 10th grade males have more positive attitudes than 10th grade females in the subdomain of pursuit of vertigo while females have most positive attitudes in the subdomain of physical activity as an aesthetic and social experience. There are no diffs in attitudes between rural and suburban students. 10th grade athletes have more positive attitudes toward physical activity and in the subdomains of health and fitness, catharsis, and ascetic experience than 10th grade non-athletes.

350. LANGLOIS, Susan E. The effects of mental and physical practice of basketball foul shooting accuracy.

M. S. in Physical Education, 1980, 56 p. (B. Jensen)
The Ss were female JV (N = 12) and varsity (N = 8) college BB players. Ten Ss were randomly assigned to a mental practice group and 10 to a physical practice group. Ss practiced their assigned method 6 times in a 2 wk period. Mental practice consisted of viewing a videotape of foul shooting and mentally shooting 15 successful foul shots at each session. Physical practice consisted of shooting an additional 20 foul shots at each session. Ss were pretested and post-tested by shooting two sets of 25 foul shots. Data were treated by ANCOVA and t. There was no difference ($p > .05$) in foul shooting accuracy between the 2 groups. Neither group improved in foul shooting accuracy over the 2 wk. period.

351. LARUE, Richard James. A biomechanical comparison of the grab start and the track start in competitive swimming. M. S. in Physical Education, 1980, 61 p. (H. J. Schechenzuber)
The Ss for this investigation were 18 members of the women's swimming team at Springfield College. After being judged competent in both the grab and track starts, all Ss were filmed and timed while performing 5 grab and 5 track starts in a random order. A correlated t was used to analyze the data and it found that the flight time and completion time were significantly faster ($p < .05$) for the track start than the grab start. There were no diffs ($p > .05$) between the 2 starts in RT, MT, response time, horizontal impulse, horizontal force and attained horizontal velocity.

352. LAUGHLIN, Cynthia Kay. The effects of an expert evaluative audience upon batting performance during tryouts of college women softball players. M. S. in Physical Education, 1980, 88 p. (B. Jensen)
Ss for this study were 83 college females who were trying out for college softball teams; 53 Ss were "newcomers" and 30 were "veterans". All Ss performed 30 trials of a batting skill test utilizing an automatic pitching machine; 15 trials were performed with an expert evaluative audience (coach) and 15 without the expert evaluative audience. The design was a Ss within groups by conditions with analysis by least squares regression. No differences ($p > .05$) were found in batting performance between the 2 conditions or between veterans and newcomers.

353. McFALL, Deborah R. Baron Pierre De Coubertin's intent of internationalism in the modern Olympic games. M. S. in Physical Education, 1980, 84 p. (E. Seymour)

The purpose of this study was to determine if it was the aim of De Coubertin in reviving the Olympic Games to promote peaceful relations between nations and to determine if components of the Modern Olympic Games support or hinder such an aim. Books, bulletins, essays, theses, dissertations, newspaper and journal articles and official reports were reviewed. In addition, the investigator attended the "Olympic Symposium at Skidmore" and the "National Olympic Academy IV" at Ind. U. It was concluded that Coubertin did, in fact, intend that a major goal of the Games be to encourage a sense of internationalism. Further, isolated components of the Modern Games have been deemed by contemporary scholars to further a sense of national, rather than international, affiliation and pride and do, therefore, propose reform.

354. NIMCHICK, Ross C. Facilities and activities desired by campers at Massachusetts state campgrounds. M. S. in Recreation and Leisure Services, 1980, 156 p. (D. Bridgeman)

19 MA state campgrounds in 3 categories (beach, mountain, and landlocked) were selected. From each campground, a minimum of 30 campers were randomly selected resulting in a total of 570 Ss for the survey. A questionnaire was used for data collection. It was found that the 5 most desired facilities were hot showers, flush toilets, fireplace, drinking water, and picnic tables. The 5 most desired activities were relaxing, swimming, trail hiking, nature walking and scenic viewing.

355. PELLETIER, Robert L. The effects of back stabilization on isokinetic torque during movements of the knee. D.P.E., 1980, 98 p. (E. Seymour)

Ss for this investigation were 50 volunteer male students at Springfield College. All Ss were tested for peak torque generated on the Cybex II isokinetic dynamometer using extension and flexion of the knee under 5 conditions: backrest stabilization at 90° of hip extension, 110° of hip extension, 130° of hip extension, 180° of hip extension, and no backrest stabilization. 4 trials were administered under each condition. A 5x2 repeated measures ANOVA resulted in the following conclusions: exercising and testing the knee flexors and extensors consecutively can be done effectively using a backrest which produces a hip extension angle of between 90° and 130° or by using self stabilization procedures (no backrest). Exercising and testing should not be done at a hip extension angle of 180° (supine). There is no one best position for exercising or testing. The use of backrest stabilization cannot be said to be superior to the use of self stabilization.

356. PENNEWELL, Thomas L. An assessment of attitude toward disabled children among physical educators and other selcted groups. D.P.E., 1980, 180 p. (W. Sullivan)
Ss for this investigation were school administrators (N=70), classroom teachers (N=55), PE teachers (N=71), parents (N=1129) and children (N=378). Two designs were utilized; the first, a 3x2 ANOVA was used to compare subgroups of administrators, classroom teachers and PE teachers as well as those Ss in segregated and integrated PE settings. The second was a 2x2x2 ANOVA used to compare settings (integrated, segregated), levels of maturity (parents, children) and categories of respondents (normal, disabled). All tests were made at the .01 level of sig. The conclusions were: there were no diffs in the attitudes toward disabled children of Ss in segregated and integrated PE settings. There were no diffs in attitude among administrators, classroom teachers and PE teachers. Parents are more accepting than are children of disabled children. Normal children and parents of normal children are more accepting of disabled children than disabled children and parents of disabled children.

357. STRIVINGS, Mark A. The effects of three variations of the spot putting method on putting accuracy. M.S. in Physical Education, 1980, 57 p. (F. Tyson)
The Ss (n=24) were tested for putting accuracy using 3 spot putting methods: spot 3' from the ball, spot 10' from the ball and spot 15' from the ball. All putts were taken from 20' and each S took 3 putts (each method) from each of 6 diff locations. 2 scores were recorded for each putt; stopping distance of the putt from the center of the hole and accuracy of the putt in hitting the "spot". ANOVA and point-biserial correlation were used for data analysis. It was found that there were no diffs ($p > .05$) in stopping

distance and hitting the spot using the 10' and 15' spot putting methods. However, putts rolling over the 3' spot stopped closer to the hole than those putts missing the 3' spot.

STATE UNIVERSITY COLLEGE (C. R. Koenig McIntyre)
BROCKPORT, NY

358. PATTERSON, Susan. A training program to develop specific manual dexterity skills of Down's Syndrome children. M. S. in Physical Education. (C. R. Koenig McIntyre)

This study was designed to determine if the fine motor skills of 3 young Down's Syndrome children functioning below average in manual dexterity skills could be improved through a systematic training program. The selected Ss were met individually for 30 mins a day, 4 days/wk, for 7 wks. Each child was trained by repeated practice on 10 specific tasks involving arm, hand and finger manipulation. Subjective data recorded during each session by the investigator indicated that generally all 3 Ss appeared to improve on the manual dexterity tasks. These results were supported by gains generally found in the Purdue Pegboard, the Crawford Small Parts Dexterity Test, and the Stromberg Dexterity Test which were administered prior to and at the completion of training. However, limitations of the study prohibit the conclusion that improvement was due to the systematic training program employed in the study.

TEMPLE UNIVERSITY (M. G. Owen)
PHILADELPHIA, PA

359. BATALHA, C. C. Validation of teaching competencies for beginning physical education teachers in Espirito Santo, Brazil. Ed.D in Physical Education, 1980, 189 p. (R. J. Antonacci)

360. GIACALONE, W. R. The development of selected primitive motor reflexes in infants. Ph.D. in Physical Education, 1980, 182 p. (M. V. Ridenour)

361. HUDSON, J. L. Utilization of stored elastic energy in the leg extensor muscles: An analysis of gender, skill level, and selected biomechanical variables. Ph.D. in Physical Education, 1980, 83 p. (M. G. Owen)

362. LEIPER, C. I. Comparison of concurrent and terminal auditory feedback as augmentation cues for a joint positioning task. M.Ed. in Physical Education, 1980, 74 p. (M. V. Ridenour)

363. RUMSEY, W. L. Sex-related influences on exercise-induced myocardial phosphorylase conversion and associated glycogen depletion. M.Ed. in Physical Education, 1980, 93 p. (Z. V. Kendrick)

364. RUOTI, R. G. The measurement of the minimal overt mechanical work expended by a subject skipping rope. M.Ed. in Physical Education, 1980, 93 p. (A. M. Paolone)

TEXAS A&M UNIVERSITY (L. J. Dowell)
COLLEGE STATION, TX

365. CHANEY, Harriett S. D. Determining management training needs of health services managers. Ph.D. in Health Education, 1980, 97 p. (L. Ponder)
Utilizing a Delphi technique 117 participants (102 managers, 15 experts) indicated their opinions regarding management training needs of health services managers to identify perceptions among managers and experts regarding the importance they attached to specific training needs. Managers perceived the following training needs: (a) communication process, (b) knowing and understanding organizational rules and regulations, (c) developing motivational skills, (d) leadership process, and (e) financial management techniques. The health services management experts perceived the training needs of managers to be: (a) communication process, (b) leadership process, (c) developing motivational skills, (d) cost analysis, (e) knowing and understanding organizational rules and regulations, (f) theories in hospital management, and (g) governmental health and health education statistics, rules, and regulations.

366. DOWELL, Martha N. The serial-position curve in kinesthetic short-term memory. Ph.D. in Physical Education, 1979, 115 p. (C. Landiss)
21 Ss (m and f) in each grade, kindergarten, 3, 5, 8, and 11, were required to move to 6 diff positions, defined by a stop, on a linear-slide apparatus under 3 diff conditions and to recall in order after a 5-sec interval to determine the

serial-position curve of serial recall and the influence of induced rehearsal on this curve in kinesthetic short-term memory. It was found that the serial recall of movement to positions is more accurate and less variable as grades increase but the serial-position curve, with a primary effect but no recency effect, is similar for all grades. The induced rehearsal of movement to a position within the middle of a series and near the end of a series of positions increases the recall of movement to that position but has no effect on the recall of movement to other positions.

367. KIRBY, Timothy E. Hemodynamic changes in response to exercise training in patients with coronary artery disease. Ph.D. in Physical Education, 1980, 106 p. (H. Hartung, G. Jessup)

The specific contributions of cardiac output, stroke volume, and arterio-venous oxygen difference to improve functional capacity in patients with coronary artery disease was determined in 9 m Ss prior to and following a standard 12 wk cardiac rehabilitation exercise training program. It was found that the exercise program had no significant effect on the variables studied.

368. KRAMPITZ, John B. Knowledge of results in the acquisition of a coincident-timing task. Ph.D. in Physical Education, 1980, 137 p. (H. Tolson, C. Shea)

5 groups of 6 Ss each were given the following degrees of KR: no KR, directional KR, directional and quantitative KR to tenths-of-a-second, directional and quantitative KR to hundredths-of-a-second, and directional and quantitative KR to thousandths-of-a-second. An additional 2 groups of 6 Ss were given the following conditions: directional and quantitative KR to thousandths-of-a-second, and a schedule of KR that increased in precision as a function of practice. The results were used to determine the effects of KR on the acquisition of a coincident-timing task. It was found that KR is not necessary for the acquisition of a coincident-timing task, but KR will improve accuracy of performance. Also, it was found that precision of KR and a schedule of KR have no effect on the accuracy of performance of a coincident-timing task.

369. SAUNDERS, Harold L. A cinematographical study of the relationship between speed of movement and

available force. Ph.D. in Physical Education, 1980, 203 p. (L. Dowell)

A total of 144 observations were recorded by use of a Locam high speed camera operating at 98 frames per second as 6 Ss (3 volleyball and 3 basketball skilled athletes) performed jumping trials (1 and 2 foot take-offs) for max vertical displacement using selected horizontal velocities to determine and compare the effects of horizontal velocity and jumping techniques on the development and application of vertical force. It was found that a curvilinear relationship exists between horizontal velocity and vertical force and displacement. Max vertical displacement increased from 0-50% of max horizontal velocity for the 2 foot volleyball jump and then decreased while vertical displacement increased from 0-60% of max horizontal velocity for the one foot basketball trials before decreasing. It was concluded that athletes appear to be able to transfer horizontal velocity into vertical components up to a max at 50-60% of max horizontal velocity.

370. SHIRER, Mary Ann. *Public service needs as perceived by both the elderly consumer and provider personnel*. Ph.D. in Health Education, 1980, 73 p. (N. G. Schmidt)

Providers involved with the nutrition program in TX were compared with the elderly recipients of the program by a mail survey to determine if agency personnel differ in their perception of needs of older people from the elderly themselves. It was found that the 2 groups differ in the areas of nutrition, employment, spiritual well being, income, transportation, education, retirement activities and housing while agreeing in the area of health.

371. SOCKLER, James. *The effects of two levels of water vapor pressure on localized sweat rate in high fit males running at 50% VO_2 max*. M. S. in Physical Education, 1979, 45 p. (J. Chevrette)

12 m Ss were placed into 3 ambient temp. groups of 30°, 33° and 36°C, respectively, running in environments of 15 and 18 mm water vapor pressure to determine the effects of 2 levels of water vapor pressure on local sweat rate of high fit males exercising in hot, humid environments of 50% of their max aerobic capacity. It was determined that water vapor has no effect on localized sweat rate.

372. THOMSON, William A. Perceived priorities of state components of a national health association. Ph.D. in Health Education, 1979, 174 p. (L. Ponder)
A survey instrument was developed through a Delphi exercise and administered to members of the 5 functioning state components to ASAHP (N=477) of which 316 (66%) responded to identify and compare priorities considered essential among state components of ASAHP. Analysis of the data revealed that the responding state components were in agreement as to priorities. Those priorities identified as important suggested that the state components should work toward becoming the recognized base of solidarity for a diverse group of allied health professors as well as provide a variety of services to them. Those priorities which were identified as unimportant were statements which dealt with individuality, educational concerns and the involvement in complex health issues.

373. WILLIAMS, Mark A. Prognosis for post-myocardial infarction patients entering cardiac rehabilitation. Ph.D. in Physical Education, 1980, 85 p. (G. Jessup)
40 m Ss who had experienced a single myocardial infarction were evaluated by the staff as not using beta adrenergic blocking agents within 12 wks. Ss were classified into 2 groups depending on completion of a 12 wk exercise program to determine whether patients who evidence a deterioration of health status while participating in a 3 mo hospital based cardiac rehabilitation program could be identified prior to their actual participation in such a program. It was found that although elevated % body fat decreased physical work capacity and the incidence of ventricular dysrhythmia with exercise are contributing factors, the incidence of ST segment depression and thus evidence of myocardial ischemia during exercise is the single most important indication of a poor prognosis for post-myocardial infarction patients entering a cardiac rehabilitation exercise training program.

TEXAS WOMAN'S UNIVERSITY (Marilyn Hinson)
DENTON, TX

374. CHEATHAM, Tina R. Validation of the Sport Competition Anxiety Test for female softball coaches. M.A. in Physical Education, 1981, 147 p. (J. Rosentswieg)
The Sport Competition Anxiety Test (SCAT) has been reported to be a valid and reliable measure in predicting precompeti-

tive trait anxiety. Yet, the statistical analyses provided with the test do not adequately support that conclusion. Female varsity softball (fast-pitch) coaches were administered the SCAT prior to competition (n=15). The HR, a standard physiological variable of anxiety, was continuously monitored by telemetry before, during and after a game. Situational HR were recorded during neutral (pre-post game), offensive and defensive conditions. Rho was used to determine all relationships between SCAT and situational game HR. Results indicated that SCAT scores did not correlate highly or even moderately with HR. The anxiety data were not sig related with HR under all of the conditions studied. The SCAT is not a valid measure of trait anxiety for women softball coaches.

375. CLARK, Kay D. The efficacy of a developmental movement program on the motor fitness of academically handicapped children. M. A. in Physical Education, 1980, 125 p. (Sherrill)

A 2 gp exp. study was conducted to investigate the motor fitness of academically handicapped Ss resulting from a developmental movement prog. conducted at TWU, Denton, TX. CG Ss (n=20), ages 6 to 12 and IQs of 38 to 108, participated in their regular PE prog. provided by their ELE Sch. EG Ss (n=18), ages 6 to 11 and IQs of 37 to 103, participated in act./games to improve basic mf 45 min./day, 2 days/wk, for 25 wks. on a 1-to-1 stdnt./tchr. relationship. 6 items from the Motor Fitness Test for Moderately Mentally Retarded was administered as a pre, re and posttest measure. ANCOVA was utilized to determine any sig diff between groups. Sig diff was found on only 1 of the test items--tumbling progression. It was concluded that the dev. mvmt. prog. did not sig improve overall mf of acd. HC Ss.

376. DEPAUW, Karen Pamelia. Photogrammetric determination of center of gravity of Down's Syndrome and normal individuals: A validation study. Ph.D. in Physical Education, 1980, 117 p. (B. Gench)

A total of 90 individuals (50 normal and 40 Down's Syndrome) served as Ss in the validation of a photogrammetric technique for determining total body and segmental centers of gravity (COG). The Ss (n=10) were placed equally into age groups (6-10 yr., 11-18 yr., adult females, adult males) except for the normal adults (15 males, 15 female). 80 Ss, 40 Down's Syndrome and 40 normal, were evaluated on total body COG by the COG board and photogrammetric techniques. The normal adults (n=30) were evaluated for segmental COG by the immersion and photogrammetric techniques. The photogrammetric technique for determining total body COG was considered to be valid (r=.97, less than 5% error). The validity of photogrammetric technique for determining segmental COG was not fully established (r=.47-.72, % of error ranged from -8.9% to 1.1%). Total body and segmental COG of Down's Syndrome and normal Ss, determined by the photogrammetric technique, were compared by age and sex to existing normative data. The results indicated that the Down's Syndrome Ss were found to have an overall lower COG when compared to the normal Ss, and the diff between the groups increased with age.

377. ERVIN, Sandra. Visually impaired adults: Opinions about physical education and physical recreation. M.A. in Physical Education, 1980, 152 p. (Sherrill)
Interviews were conducted with 30 legally blind adults, ages 16 to 50, to obtain their opinions in response to 37 questions concerning past and present experiences in PE and REC and factors relating to these experiences. 3 judges independently rated the responses as having positive or negative affect toward PE and REC. Z values ($p < .05$) were obtained for responses to 24 of the 37 interview questions. Of these, 14 were favorable and 10 were unfavorable. It was concluded that Ss had positive feelings about their remembered school-based childhood and adolescent PE and REC experiences and negative feelings about their past and present involvement and/or inclusion in family, neighborhood, community and church PE and REC. ANOVA showed no sig diff in opinion as related to school placement (public vs residential).

378. HAMMOND, Cara M. Toy preferences of autistic children. M. A. in Therapeutic Recreation, 1981, 125 p. (Tague)
10 autistic children, ages 6 through 15, were observed on 3 consecutive mornings during October, 1980, to obtain data concerning 2 aspects of toy preferences in a free play setting: toy selection after operant conditioning in a toy stimulation program; and toy selection pertaining to reactive or non-reactive toy characteristics. Ss enrolled in 3 school-age classes at the Lynne Developmental Center in Richardson, TX, were observed as they rotated on a 20 min schedule through the Social/Emotional (Play) classroom. Each S was instructed to pick a toy of his choice from a

table set-up in the room. The investigator, in turn, recorded: whether the S selected the conditioned toy; what toy was selected; and whether the selected toy was reactive or non-reactive. A frequency count and chi square were utilized to determine if sig diff existed concerning each aspect of toy preferences on the 3 days independently and across the total 3-day observation period. The only sig diff at the .05 level were found on Day 3 and on Total Days concerning the selection of the conditioned toys. The autistic Ss demonstrated a tendency to select toys other than those which had been conditioned in the toy stimulation program. The Ss did not, however, show a preference for selecting reactive or non-reactive toys during the observation period, indicating that the reactivity or non-reactivity of toys has minimal effect on toy selection when considering therapeutic intervention with autistic children.

379. HAWLEY, Patricia. Auditory and visual rhythm perception as a function of adapted dance with trainable mentally retarded adolescents. M. A. in Physical Education, 1980, 119 p. (Sherrill)
The Birch and Belmont Auditory Visual Pattern Test and the Sterritt and Rudnick Auditory Temporal-Visual Spatial tests yielded pre and post data for 2 groups (n=15 of trainable MR adolescents, ages 16-20, with a mean IQ of 39.47 (exp group) and 40.40 (control group). The exp group received 19 sessions (50 min each) of adapted dance instruction spaced over 1 mo. ANCOVA revealed no sig diff between groups on the 3 tests. It was concluded that auditory and visual rhythm perception in the trainable MR Ss was not sig changed by the adapted dance program. Anecdotal data showed that exp Ss did improve speaking and reading vocabulary and performance of dance movement pattern combinations. Ss learned Csebogar, Circassian Circle and Virginia Reel.

380. KOLTYN, K. F. The relationship between perceived velocity and true velocity while running variable speeds. M. A. in Physical Education, 1980, 68 p. (B. Gench)
The investigation compared perceived velocities of 1/2, 2/3 and 7/8 speeds with max velocity. 9 college-aged women who were members of the 1976-77 TWU track team served as Ss. Data were collected using photo-electric cells, electric timers, and cinematography as the female runners performed a series of 60 m fly-ins at max, 1/2, 2/3 and 7/8 speed.

The results were analyzed to determine if perceived velocity was the same as true velocity while running at variable speeds, and if there was a diff in stride length and stride rate while running at variable speeds. The data collection took place during May, 1977, at the TWU. Results of a paired t test done for each of the variable speeds showed that there was a sig diff between perceived velocity and calculated true velocity. It was postulated, from the findings, that both stride length and stride rate were adjusted in an attempt to vary velocity for the variable speeds.

381. LESSARD, Elizabeth C. *Biomechanical analysis of the classical grand plié and two stylistic variations*. Ph.D. in Dance and Biomechanics, 1980, 99 p. (Marilyn M. Hinson)

A biomechanical analysis was conducted to determine how the addition of torso movements affected the *grand plié* as performed by 3 Ss. Film data taken from the front and side views were merged and submitted to a computer program to obtain moments of force at the hip, knee and ankle joints and the excursion of the total body center of gravity. Dominant muscle group action and patterns of types of muscle contraction were also examined. Results of the investigation were that the addition of torso movements increases the force moments at the joints and that the displacement of the torso results in compensatory realignment of the lower extremities. Therefore, such stylistic variations of the *grand plié* should not be included in the training of the beginning dancer. Conclusions were that the *plié* is accurately described by the literature, the rationale for adding torso movements to the performance of the *plié* is mechanically sound, and the addition of torso movements increases the level of difficulty of the *plié*.

382. McCALEB, Janice D. *Birth of a ballet: August Bournonville's A Folk Tale, 1854*. Ph.D. in Dance and Related Arts, 1980, 385 p. (A. S. Lockhart)

A Folk Tale, choreographed by August Bournonville, director of the Royal Danish Ballet from 1830-1875, from its inception in 1853 to the restaging done by Bournonville in 1874, was discussed based upon existing archival sources. Historical materials included: photographs, stage plots, property, lighting and scenery notes, reviews, rehearsal and diary notations, costuming information, biographical information on selected 19th and early 20th century soloists and directors, cast lists and data on *A.F.T.* performances by the Royal Danish Ballet, 1854 to 1975, floor patterns for the Farmers' Dance (Act 1) and a translation of the libretto. Specific analysis was made of Act 1, scenes 1 and 2. The process Bournonville used to write his libretto was discussed based upon folkloric sources, previously published stories and performed theatrical productions. Short essays included: biography of A. Bournonville; social and political history of Denmark, 1800-1870; development of musical culture in Denmark to 19th c.; collaborative relationship between Bournonville and his composers; and biographies of the composers of A.F.T., Niels W. Gade (1816-1890) and Johan P.E. Hartmann (1805-1905).

383. REUTERFORS, M.D. Muscle atrophy of the dorsal interossei in the geriatric hand. M. A. in Physical Education, May, 1980, 107 p. (Hinson)

Support was provided for the presence of altered hand functioning in geriatric women exhibiting dorsal interossei muscle atrophy. A sample of active women aged 65 and over were measured for hand strength, MCP joint motion and palmar contour. 25 women exhibited visible bilateral interossei atrophy and were compared to 25 without visible atrophy. Data were gathered for each hand using a Jamar dynamometer, a goniometer, a hand outline and finger palmprint. Measurements were subsequently analyzed using t tests and Pearson r. The 2 groups were similar in age, hand ht and digit length. Results supported the predictions that a sig diff ($p < .05$) occurred between the 2 groups in all the dependent variables. The atrophy group exhibited a greater incidence of thenar atrophy, weakened grip strength, fewer degrees of MCP extension, of middle finger excursion, of MCP abduction, and of pure MCP flexion. One pair of parallel correlations between the groups was found to be sig diff using Fisher's r to z transformation. Deficits in various hand parameters were found to occur in the presence of dorsal interossei atrophy.

384. SEWELL, Janice M. Changes in motor performance of young handicapped children. M. A. in Physical Education, 1980, 198 p. (Sherrill)

A 1 group pilot study was conducted to investigate the changes in gross motor performance of early childhood handicapped Ss resulting from participation in an adapted PE program. Selected items from the DDST were expanded for quantitative data collection and were administered to 20 Ss, ages 3-6. Ss participated 20 min/day, 4 days/wk, for

12 wks. in the adapted PE program. Progress during the exp period was graphed and data were analyzed to compare performance on each skill with that of 50% and 90% of normal children of the same chronological age, and to study performance by etiology and IQ. Sig diff were found in the total no. of items passed, no. of Ss exhibiting no delays; and for selected motor tasks in the no. of Ss performing at the criterion level and in the no. of delays exhibited. It was concluded that the adapted PE program did improve performance on selected motor tasks with the extent of progress determined by initial level of functioning and individual handicaps.

385. SHELL, Caroline Goodrich. The concepts and practice of elementary pointe technique for college-level ballet students. Ph.D. in Dance, 1980, 487 p. (Aileene S. Lockhart)

The purpose of the study was to prepare a handbook on elementary pointe technique at the college level. The instructional materials were based on the physical and technical deficiencies of 13 college-level skilled ballet students, but their presentation in the handbook was directed toward the needs of both the teacher and the student. A descriptive design was used in which a single group of students participated in a 10-wk instructional period and was scored in the execution of pointe vocabulary in a pretest and post-test performance. There was a sig diff ($p < .05$) in the means of the pre- and post-test scores. Although the study was too limited to ascertain the extent to which the instructional materials were responsible for the improvements in performing skills, the handbook was offered as an alternative to traditional ballet manuals which often fail to address the college dancer in terms of her experience. These manuals sometimes contain technical requirements and mechanical aspects of execution which are ambiguous to the college-level ballet student.

386. STALEY, Kimberly T. A dance based on Laban effort factors with Labanotation scoring: The Interchange. M. A. in Dance and Related Arts, 1980, 132 p. (P. Hanstein)

The 4 Laban effort factors of flow, weight, time and space were utilized in a choreographic work by designing movements with varying uses of energy. A score of Laban-notated excerpts was also provided. Dale E. Ramsey, M.M., wrote an original composition especially for the study. The compositional score and the choreographic idea closely paralleled each other in initial design and were based on the conversational theme of a dominating steady pulse with counterpoint played against it. The content of the choreographic conversation was portrayed by 2 dancers who explored various movement possibilities using inherent qualities of the Laban efforts. The preparation of the notated excerpts was accomplished by analyzing the movements of the dancers, preparing a notated score using Labanotation and submitting the notated excerpts to the Dance Notation Bureau for a mechanical check. Invaluable experience was gained from the notation process, and a more extensively notated score of the major movement themes is currently in progress. Preparation of the notated score required a sizeable time commitment and extensive analysis and preparations. It may therefore be advantageous to consider a notated score as a separate thesis study.

387. TWILLIE, G. B. The effects of creative dance on the school readiness of five-year-old children. Ph.D. in Dance, 1980, 122 p. (A. Lockhart)

18 creative dance lessons were developed and presented to 45 5-yr-old Ss, 30 min/day, 3 days/wk for a 6-wk period. The instruments selected to assess the Ss' school readiness were the Metropolitan Readiness Tests and the Goodenough-Harris Drawing Tests. Posttest scores of Ss in the exp group were compared with the scores of Ss in the control group. Results of the ANCOVA indicated no sig diff between the readiness and intellectual maturity of Ss who were involved in the creative dance classes and those who were not involved. It should be noted, however, that the size of the sample, the length of time of the study, the dance area and space, the difficulty in maintaining class control, and the variation in testing conditions could have been contributing factors in the limitations of this research. Creativity has often been associated with intelligence. If this is a valid tenet, then a test which measures creativity should be included in any replication of this study.

388. WEILLER, Karen H. Identification of leaders and leadership functions of an intercollegiate softball team. M. A. in Physical Education, 1980, 135 p. (Bettye Myers)

Leadership characteristics and qualities of specific groups were examined in a softball team situation. Ss were the 18 players and coaches of the 1979 T. W. U. varsity softball team. The above theory was explored by using scale values ascribed by players and coach to leadership functions to be performed by players. Ss were also asked to identify leaders/followers of the team and to establish specific leadership functions for each player. Results indicated players chose leadership functions which were more communication oriented, while the coach chose functions which were more task oriented. The players' chosen leaders were more consistent with their selected criteria than were those leaders and functions selected by the coach.

389. WILSON, K. A. Aquatics for the multiply handicapped: Six case studies. Master's degree in Physical Education, 1980, 150 p. (J. M. Moran)

The case study method of investigation was utilized to collect observational data concerning all motor responses and environmental interactions of 6 profoundly MR, multiply handicapped children during participation in an aquatic program. The Ss ranged in age from 9 yrs, 9 mos, to 17 yrs, 4 mos and resided at Denton State School, Denton, TX. The program entailed 40 min of swimming instruction, twice weekly for 6 wks. Each S was paired with 2 teachers to provide the most effective aquatic instruction. The sessions were conducted at the indoor swimming pool at T.W.U. Immediately after each 40-min swimming session, instructor observations were recorded in checklist and anecdotal form on the Wilson Observational Checklist. Group accomplishments, compiled from case study data and based on the checklist, affirmed that the Ss made favorable responses or progressed in 50% or more of the checklist skills. Results, within their limitations, verify that participation in an aquatic program improved physical mobility and the aquatic program expedited interrelationships among participants. Thus, the profoundly MR, multiply handicapped individual can improve in physical mobility and socialization when given individualized instruction in an aquatic program.

UNIVERSITY OF ALABAMA (J. F. Smith)
UNIVERSITY, AL

390. CLARK, E. S. Effect of a twelve-week progressive weight training program on the basal metabolic rate of male college students. Ed.D. in HPER, 1980, 77 p. (J. F. Smith)

An investigation of the effect of wt training on the BMR of male college students was undertaken. 21 students with little or no wt training experience, ranging in age from 18 to 40 yrs, underwent a 12-wk progressive wt training program in order to develop LBM. Measurements of BMR, expressed as basal VO_2 and body composition, assessed by underwater weighing and skinfolds, were taken prior to training, after 6 wks, and upon completion of the training program. Data were analyzed using a 1 group pretest-posttest exp design with a repeated measures ANOVA used to test for sig. Tukey's HSD was employed as a follow-up test when a sig main effect was found, and Pearson r was used to examine the relationship beween LBM and basal VO_2. The results revealed a sig: increase in BMR; increase in LBM; decrease in FW; decrease in % fat; decrease in chest, triceps, suprailiac, thigh, and calf skinfolds; and relationship between LBM and BMR. An increase in BMR resulted in a greater no. of kcal expended in a resting state, causing less kcal to be available for storage as fat. An increase in LBM through wt training was accompanied by an increase in BMR. Participation in physical activity such as wt training to maintain or increase the LBM was recommended as a means to maintain or increase BMR. Also, wt training should be included in adult fitness programs in order to combat an increase in body fat, a decrease in LBM, and a decrease in BMR with advancing age.

THE UNIVERSITY OF ALBERTA (R. G. Glassford)
EDMONTON, ALBERTA, CANADA

391. ADAMS, Dennis. Inuit recreation and cultural change. M. A. in Physical Education, 1978.

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UNIVERSITY OF ARIZONA (Kathryn Russell)
TUCSON, AZ

457. HACKER, C. M. Cohesiveness and success: Covariation and causality among intercollegiate field hockey teams. M. S. in Physical Education, 1980, 99 p. (J. M. Williams)

The Sport Cohesiveness Questionnaire (Martens, Landers and Loy, 1972) was used to measure cohesion, participation motivation and satisfaction among 9 women's intercollegiate field hockey teams. The questionnaire was administered at early, mid-and post-season while performance measurements were obtained at mid-and post-season. Using the cross-lagged panel technique, an attempt was made to determine causal directions between cohesion and performance, between self, task and affiliation motivation to cohesion and performance and between member satisfaction to cohesion and performance. Results indicated that while members of winning teams were more cohesive than members of losing teams, a circular causal relationship existed for cohesion to performance and from performance to cohesion. The only sig r between participation motivation and performance was the performance success leading to self participation motiviation. Correlations between participation motivation and cohesion indicated that affiliation motivation leading to subsequent cohesion was the only sig statistic. Finally, while members of winning teams were more satisfied than members of losing teams, higher levels of satisfaction did not lead to increases in performances but performance success did lead to an increase in satisfaction. The satisfaction to cohesion and cohesion to satisfaction r's yielded a sig positive relationship.

458. KARWASKY, R. J. An analysis of the maximal aerobic power of trained cyclists and distance runners relative to leg volume, leg strength and body composition. M. S. in Physical Education, 1980, 76 p. (J. H. Wilmore)

This study compared the cardiovascular fitness of 2 groups of highly trained endurance athletes, distance runners (n=9) and cyclists (n=9), as assessed on both the treadmill and bicycle ergometer. All Ss performed 2 maximum aerobic capacity tests on each apparatus, as well as tests for max leg strength, leg volume, and body composition. The runners elicited the highest VO_2 max values (69.2 ml/kg·min) when running on the treadmill, but their bicycle ergometer values were markedly reduced (-13.6%). Conversely, the cyclists were able to exceed their treadmill VO_2 max values by 3.0% during max bicycle work. Both groups were able to reach sig higher HR max values during running as compared to cycling, and this tendency was particularly pronounced among the runners. Diff in leg strength and leg volume were unable to account for the diff in VO_2 max between the 2 groups. The runners had sig less body fat than did the cyclists (6.0% and 12.4%, respectively), which is to their advantage in a weight-bearing activity such as running. The results of this investigation support the concept of specific cardiovascular adaptation to different types of muscular activity.

459. PARRISH, V. Three-dimensional cinematographic analysis of selected aspects of the overarm and sidearm

softball throw. M. S. in Physical Education, 1980, 132 p. (A. E. Atwater)

This study investigated diff between selected aspects of the overarm and sidearm softball throw by use of 3-D cinematographic analyses. Specifically, this investigation examined the 3-D resultant linear velocities of the ball, right elbow joint center and right shoulder joint center; the 3-D component velocities of the ball; 3-D angular displacement and velocity of the right elbow joint; and the body position at release. 4 adult female Ss, who were or had been college varsity softball players, performed both overarm and sidearm softball throws. They were filmed using 2 high-speed motion picture cameras aligned so their optical axes intersected at 90°. The film data were then reduced to 3-D coordinates by means of the Susanka vector approach. It was concluded that there were more similarities between the overarm and sidearm throwing patterns than there were diff. The 2 throws were similar in ball velocity, rate, sequence, and timing of joint center velocities, and degree of elbow extension. Diff were found in the Y (lateral) and Z (vertical) component ball velocities, and in the trunk position at release as seen from a rear view. However, the diff between the 2 throws were felt to be sig enough to warrant separate learning experiences for each type of throw.

460. SANTEUSANIO, D. M. A swimming test for prediction of maximum oxygen consumption. M. S. in Physical Education, 1980, 60 p. (J. H. Wilmore)

The predictability of VO_2 max from performance time in an all-out 800 m front crawl swim and selected physical characteristics was evaluated in 50 males, 15-25 years of age. VO_2 max was determined via the open circuit method during tethered swimming and compared with age, body weight, training level, and performance time in the 800 m swim. Regression analysis revealed that body weight and performance time were the most sig predictors of VO_2 max. A multiple regression equation was constructed using these 2 variables to predict VO_2 max in liters/min. The correlation coefficient was $R=0.84$ ($p < 0.001$). Reliabilities for tests of VO_2 max and 800 m swim times were $r=0.96$ and $r=0.99$, respectively. The high reliability of the field test and the strong relationship between VO_2 max with body weight and performance time indicate that the 800 m swim test is a good predictor of VO_2 max.

UNIVERSITY OF ARKANSAS (G. C. Moore)
FAYETTEVILLE, AR

461. ALTENA, S. An evaluation of a concept of physical activity course. Ed.D. Dissertation in Physical Education, 1980, 114 p. (G. C. Moore)

A Concepts of Physical Activity course at Dordt College, Iowa was evaluated to determine its effectiveness in changing attitudes toward physical activity, knowledge concerning physical activity, and voluntary physical activity outside the classroom. Ss were freshmen arbitrarily divided into a concepts group which enrolled in the Concepts of Physical Activity course (N=149) and an activity group which enrolled in various required-elective physical activity courses (N=115). All Ss were given pre and post tests on the Kenyon Attitude toward Physical Activity Inventory; the Walker General Knowledge Inventory Test; and a Voluntary Physical Activity Questionnaire developed for the study. Statistical procedure was t. For the post-test data, significant t's were found between concept and activity groups on attitude toward physical activity and knowledge of physical activity but not on voluntary physical activity.

462. JOLLEY, W. J. The effect of vitamin E on muscular strength, cardiovascular and pulmonary function, blood chemistry and anthropometric measures. Ed.D. in Physical Education, 1980, 118 p. (G. C. Moore)

Ss, 41 adult male volunteers, were divided into 3 groups then subdivided into active and inactive lifestyles within each group. Each group was given 1 of 3 supplements: natural vitamin E, synthetic vitamin E or placebo for a 9 wk. period while maintaining their normal lifestyles. Measures pre and post included: a submax bicycle ergometer test, vital capacity and functional expiratory volume, 17 muscle strength measures, 4 muscle girth measures, % body fat from skinfold measures, and 7 blood measures. ANOVA and t were the statistical procedures. Conclusions were that vitamin E supplements do not induce consistent changes in blood chemistry, max VO_2, selected anthropometric measures or selected muscle strength measures.

463. STOCKTON, J. T. A study of home court advantages in junior college basketball. M.Ed. in Physical Education, 1980, 28 p. (G. C. Moore)

Point spreads were compared on games played at home and away for each of the men's and women's basketball teams, both individually and collectively, in the Arkansas Junior College Conference 1978-79 season. The relationship between distance traveled and point spreads on away games was also studied. The scores for the 84 games were analyzed, with t's computed for differences in point spreads home-away. Both men and women had a significant home court advantage. Distance traveled was not related to point spreads on away games for either men or women.

UNIVERSITY OF CALIFORNIA (M. L. Norrie-Brown)
BERKELEY, CA

464. ANYANJOR, Timothy A. Expressive and instrumental power value orientations of university student participants in the martial arts. Ed.D. in Education, 1980, 181 p. (S. L. Webster; R. J. Park)

The power value orientations (PVOs) of university students (N=232; 166 males, 66 females) and the possible relationship of these with their choice of martial arts forms were investigated. The concept of power value orientation made use of the conceptualization of Bredemeier (1979), which posited the existence of 2 power value orientations: expressive power value orientation; instrumental power value orientation--each of which could be studied in terms of situations involving sport and everyday life. Ss enrolled in Hapkido/Tai Chi Chu'an scored higher on the expressive power value orientation in sports scale ($p < .02$) than did those enrolled in Judo/Karate classes. Ss enrolled in Judo/Karate scored higher on the instrumental power value orientations in sports scale than did those enrolled in Hapkido/Tai Chi Chu'an ($p < .002$). Female Ss scored higher than male Ss on the expressive power value orientation in sports ($p < .01$). Male Ss scored higher on the instrumental power value orientation in sports scale than did the female Ss ($p < .02$). No sig diff were found on any measure for the everyday life scale, or for such variables as belt rank or level of experience.

465. CRUM, Julie F. An observational study of the play patterns of elementary school children. Ph.D. in Education, 1980, 117 p. (H. M. Eckert)

The self-selected participation of 72 6- and 8-yr-old boys and girls was videotaped for each of 2 5-min observational periods. Videotapes were analyzed in terms of the activity organization choice, activity socialization choice, sex of Ss' play group, size of play group, and motor skill competency ratings. The play characteristics for 6-yr-old boys and girls and for 8-yr-old girls tended to be similar except for the amount of sex-typing associated with their activity selections. Characteristics of 8-yr-old boys' play were participation in activities requiring open skills with balls; high motor skill ability; play groups with more than 6 children; participation in masculine-preferred or neutral activities; and association with predominantly male groups. 8-yr-old girls selected feminine-preferred activities characterized by cooperative turn-taking in individual performance activities or social conversation; played in groups of 4 or less; selected activities requiring a repetition of a few skills in an unchanging environment; and played primarily in all-girl groups.

466. DICKER, Scott G. Metabolic and heart rate responses to tethered controlled frequency breathing swimming. M. A. in Physical Education, 1979, 51 p. (G. A. Brooks)

The purpose of this study was to investigate the respiratory and heart rate (HR) responses to tethered controlled frequency breathing (CFB) swimming. Controlled frequency breathing swimming is an aquatic training technique in which ventilatory rate is voluntarily reduced in order to induce systemic hypoxia during training. 9 elite college swimmers experienced with CFB were studied. The tethered swimming tests were discontinuous, with 4 min work bouts interspersed with equal duration rest periods. The resisting forces during tethered swimming were 5.63, 6.82 and 7.95 kg. Each S was tested breathing every 2 (control), 3, 4, and 5 arm strokes. Ss performed all 4 breathing frequencies at a constant arm stroke rate of 30/min during freestyle swimming. As ventilatory volume decreased due to CFB, O_2 extraction and estimated tidal volume significantly increased ($p < .05$) to maintain a constant O_2 consumption for a given workload. CO_2 production, respiratory exchange ratio, and HR did not change significantly in response to CFB. Estimated alveolar partial pressure of O_2 (PAO_2) decreased and $PACO_2$ increased sig during CFB. However, estimated saturation of arterial blood with O_2 (SAO_2) was essentially undiminished during CFB. These responses do not indicate hypoxia, but rather hypercapnia during CFB.

467. OTTO, Sharon G.Z. *The effect of individualized instruction in physical education on student teachers and their students*. Ph.D. in Education, 1980, 148 p. (J. D. Stone; M. L. Norrie-Brown)

468. SWERRIE, Allyne M. *Changing attitudes toward physical fitness through reparenting*. M. A. in Physical Education, 1980, 87 p. (M. L. Norrie-Brown)

469. TURNER, Sue C. *Anaerobic threshold: Effects of speed of movement and glycogen depletion*. M. A. in Physical Education, 1980, 106 p. (G. A. Brooks)

9 male Ss performed continuous incremental exercise on a bicycle ergometer pedaling at 50 and 90 rpm in a normal glycogen state (NG) and at 50 rpm in a glycogen depleted state (GD) to determine if alterations in pedaling frequency and muscle glycogen content would affect their so-called "anaerobic thresholds". Ventilatory and lactate thresholds were identified as the points after which V_E and blood lactate began to increase non-linearly as a function of workrate. The GD protocol affected a sig divergence between the 2 thresholds, shifting the T(vent) to an earlier and the T(lac) to a later workrate relative to the NG state. When the pedaling frequency was increased from 50 to 90 rpm in the NG condition, the T(lac) was shifted in the opposite direction to an earlier workrate. A coefficient of correlation of only 0.71 was obtained between Ss' ventilatory and lactate thresholds. In Ss 70 kg, the T(lac) came at a work load 400 kg·m/min less than Ss 80 kg body mass. The observation that the T(vent) and T(lac) could be manipulated independently of each other reveals limitations in using the T(vent) to estimate the so-called "anaerobic threshold".

UNIVERSITY OF FLORIDA (O. Holyoak)
GAINESVILLE, FL

470. DOVER, Stephen Jack. *The effect of hyperventilation on the magnitude of maximal oxygen uptake*. M. A. in Physical Education, 1979, 39 p. (C. W. Zauner)

This study sought to determine if hyperventilation affected the magnitude of maximal oxygen uptake (VO_2) as precipitated via the Balke treadmill protocol and assessed by a modified Douglas bag technique. 4 trials were administered to each S, each trial being approximately 1 wk apart. The first 2 trials were standard assessments of VO_2. During each corresponding sampling collection period in the third trial, the S breathed at a frequency (f_b) 50% greater than at the greatest rate achieved during that same period in Trial 1 or 2. Trial 4 was once again a standard assessment of VO_2. The trial that yielded the largest VO_2 between Trials 1 and 2 was considered as Trial A for purposes of statistical analyses. ANOVA for repeated measures was used to evaluate the data among Trials A, 3 and 4. The f_b in Trial 3 was 57.6% and 38.2% greater ($p < .01$) than in Trial A and Trial 4, respectively. Tidal volume in Trial 3 was 21.7% and 18.6% lower ($p < .01$) than in Trials A and 4, respectively. The volume of expired air (V_E), however, increased 23.4% from Trial A to Trial 3 ($p < .01$), but was not significantly different (12.1% greater; $p > .01$) at Trial 4 as opposed to Trial 3. The VO_2, carbon dioxide production (VCO_2) and HR were the same ($p > .01$) among trials. It was noticed that VO_2 failed to correlate sig with any other variable at any of the 3 trials. On the other hand, VCO_2 was sig related to V_E ($p < .01$). The results indicate that increasing the rate of breathing by 50% while at maximal exercise does not affect VO_2 max.

471. GIL, Russell S. Self-esteem as it relates to selected factors of physical fitness and voluntary participation in physical activity. M. A. in Physical Education, 1979, 55 p. (R. Allen)

This study compared groups with high and low self-esteem levels on the amount of time spent in voluntary physical activity and selected factors of physical fitness. 183 boys and girls from grades 4, 5 and 5 were administered Coopersmith's Self-Esteem Inventory, the AAHPERD Youth Fitness Test and a questionnaire on voluntary participation in physical activities. Data were analyzed by grade and by sex. A two-tailed t-test was used to determine if diffs existed in high and low self-esteem levels. r was used to determine self-esteem relationships. Ss were grouped into a top and bottom thirds by scores on Coopersmith's Self-Esteem Inventory. The results did not substantiate any sig diff in the amount of voluntary physical activity or physical fitness level between high and low self-esteem groups. A sig but weak relationship was found between self-esteem and the amount of voluntary participation in physical activity for boys. It was concluded that self-esteem level does not influence the amount of voluntary participation in physical activity or the participant's physical fitness level.

472. GREENE, Anthony F. The effect of physical activity on state anxiety in adolescents. M. A. in Physical Education, 1979, 36 p. (R. A. Siders)

The purpose of this study was to examine the effect of two specified movement sequences on the measured level of state anxiety in adolescent subjects to assess clinical application. 30 male volunteers from a juvenile detention center were randomly selected in 10 groups (n=3). On the first day they were led through a sequence of isometric muscle tension exercises, and immediately afterwards completed the Speilberger State-Trait Indicator (STAI). 2 days later the STAI was administered with no preceding activity, and again 2 days later at a different time of day with no preceding warm-up. Finally the second movement sequence of calisthenics was initiated 1 wk after the first, immediately followed by the STAI. The STAI scores were then divided into high and low trait anxious groups. These scores were compared to the scores for each movement sequence to determine if the physical activity affected the STAI scores. ANOVA did not reveal any sig diff between trials and did not support the hypothesis that physical activity would decrease the level of state anxiety.

473. LIGHT, Lisbeth Wayne. The historical development of the University of Florida's intercollegiate swimming team 1921-1978. M. A. in Physical Education, 1979, 62 p. (H. A. Lerch)

The research was conducted using primary and secondary sources such as personal interviews, correspondence, team newsletters, publicity releases, scrapbooks, newspaper articles, and official records. The final report included a discussion of each of the coaches' careers at the University of Florida (UF), the team's successes, and a prediction of the years to come. Events from the fledgling years at Newnan's Lake, Freezer's Pond and Glenn Springs were cited. The early years at UF Pool under the direction of Frank Genovar were discussed, during which time the team was undefeated in 7 seasons. WW II ended the UF swimming program for 4 years, but 7 yrs later the team had regained its prewar supremacy by overpowering SEC opponents under Coach Jack Ryan. Beginning in 1956 the UF team won 13 consecutive SEC crowns under head coaches Ryan, Buddy Crone, and Bill Harlan. Under Harlan, the men won 2 additional titles in 1970 and 1971 and placed in the top 10 in the NCAA Championships 4 times. The UF first Olympic swimmer, Tim McKee, was coached by Harland and won Olympic silver medals in the individual medley races in 1972 and in 1976. The Lady UF Swim Team began as a club in 1971 and held that status for 2 yrs before becoming a member of the UF Athletic Association. In 1976 it was combined with the men's team under head coach Randy Reese. The men climbed from last place in the 1976 NCAA meet to 17th in 1977, and to 6th in 1978. The women progressed from 19th in the 1976 AIAW meet to 3rd in 1977 and 2nd in 1978.

474. McCAUGHEY, Dianne O. A comparison of revenue sources of interscholastic athletics in selected Florida high schools from 1974-1979. M. A. in Physical Education, 1980, 128 p. (N. S. Whiddon)

The growth of programs, inflation, and decreasing school allocations have placed a burden upon the financial support of SHS athletics. In an effort to assess the present status of interscholastic funding programs, a questionnaire was mailed to 75% of the public and private SHS in FL to obtain information related to 6 sources of funding and additional factors for observable trends. The 14 major sports offered by the majority of the SHS were studied to determine their operations and future plans. The results indicated that boys' programs were allocated larger budgets than girls' programs. Gate receipts are the major contributors of revenue sources. The major diff between public and private schools is the source of revenue. Of the 22 sports which are offered for the combined boys' and girls' programs, 9% are operating at a profit, while 91% are operating at a deficit. Football is the leading sport by gate receipts for boys, and basketball is the leading sport by gate receipts for girls. Future additions to athletic programs were indicated by 61% of the respondents.

475. METZGER, Rhoda. Fun in the woods: The effects of a humanistic outdoor education program on fifth grade children. M. A. in Physical Education, 1979, p. 69. (H. A. Lerch)

61 5th grade children participated in a 6 wk humanistic outdoor PE program. During the 6 wk period, statistically sig ($p < .05$) diffs were seen in the general self-concept (SC) scores of the pupils as measured by the Tennessee Self Concept Scale. Although the males improved in overall SC, the females showed a decrease. The treatment program was not found to be the main causal factor of the SC score changes. However, a strong positive trend in the main effect was

indicated; therefore, it was speculated that had the program been longer in length, sig results due to treatment might have occurred. There was evidence to indicate a general acceptance of the Fun In The Woods program via the written feedback cards. However, the ratio of positive to negative comments did not increase during the 6 wks as hypothesized, but instead, stabilized with minor fluctuations. Since the program was based upon a humanistic philosophy, N-1 analyses were performed on 27 of the 52 Ss having completed all facets of the testing and treatment as designated by the Solomon Four Group Design that was utilized. However, the N-1 analysis technique has limited validity when attempts at generalizations are made; therefore, each analysis had to be individually viewed.

476. NEEDHAM, Janet Sue. Physiological effects of running ten miles under three patten conditions. M. A. in Physical Education, 1979, 83 p. (C. W. Zauner)
The effects of 3 diff patterns of exercise: one 10-mile run daily, two 5-mile runs daily, and 3 3-1/2-mile runs daily on 16 hematological parameters, reflecting physiological stress to the body, were examined. Blood samples were drawn daily, 1-1/2 hrs after the cessation of exercise, and the values of the 16 parameters were compared. Consistently, hemodilution (as evidenced by response of red blood cell count, hemoglobin concentration, and hematocrit), which is cardioprotective, occurred only during the regimen of three 3-1/2 miles runs daily. White blood cell response (changes in the white blood cell count, neutrophils, and lymphocytes) suggested that the same regimen was less stressful than the regimens of one 10-mile run daily or two 5-mile runs daily. It was concluded that the most conservative approach to covering a given distance at a given pace daily is in 3 equal runs, rather than 2 or 1 longer runs.

477. NISCO, Elizabeth Ann. The status of Title IX in public high school physical education programs in the state of Florida. M. A. in Physical Education, 1979, 76 p. (N. S. Whiddon)
In 1972, a law was passed which has been instrumental in bringing about major changes in PE and athletic programs. Title IX of the Educational Ammendments, effective in June, 1975, stated that educational institutions receiving Federal financial assistance could not discriminate on the basis of sex. ELEM schools had 1 yr to comply with the regulations

of the Department of HEW, while secondary and higher education programs were granted a 3 year grace period. A questionnaire was developed in order to obtain information related to 8 areas of compliance: teacher employment trends, nature of activity offerings and class size, student class assignments, course comparability, skill and progress measurement, faculty utilization, sex-specificity of course titles and advanced course offerings. Through random sampling, questionnaires were mailed to 231 public SHS in FL. 98 schools (42.4%) returned the survey. However, for one section of the questionnaire, 11 schools submitted insufficient information for calculation (37.6%). The results indicated that a greater percentage of urban county schools (85%) were in full compliance as compared to rural county schools (51%). Course offerings seemed comparable for both sexes, between school classifications and between urban and rural counties. Overall, female chairpersons outnumbered male chairpersons and employment trends for men and women varied according to the type of county (urban-rural) and showed no discrepancy in hiring.

478. SEGERSTEN, Paul E. The effects of three dietary treatments upon energy substrate indicators during a thirty minute treadmill run. M. A. in Physical Education, 1979, 64 p. (C. W. Zauner)

Highly trained distance runners served as Ss. The 3 dietary protocols were a 12 hour fast, a high carbohydrate meal, and oral administration of fructose. After each of the diets, each S ran on a treadmill for 30 min at an intensity corresponding to 60-98% of their max aerobic capacity. Blood samples were taken at rest, after a 8 min warm-up, and following 11, 25 and 30 min of the treadmill exercise. The blood samples were analyzed for concentration of glucose, lactate, insulin and triglyceride. Expired air samples were taken at 10 and at 29 min of the exercise for determination of VO_2 and CO_2 production. Results of the data analyses suggest that although glucose and lactate varied with the duration of time from S to S, there were no sig diffs in the parameters analyzed as a result of variations in the pre-exercise diet. It might be assumed that any of the dietary protocols studied would be equally useful.

THE UNIVERSITY OF GEORGIA (Dr. Patricia Del Rey)
ATHENS, GA

479. BUTTS, Frank. Evaluation of public recreation departments in Georgia. Ed.D. in Recreation, 1980, 124 p. (G. S. O'Morrow)

Public recreation departments in GA were evaluated on nationally accepted standards as found in the NRPA's Evaluation and Self-Study of Public Park and Recreation Agencies. For purposes of comparison, the recreation departments participating in this study were placed in 1 of 5 service area population categories: up to 14,999; 15,000 to 24,999; 25,000 to 49,999; 50,000 to 99,999; and 100,000 and above. Deficiencies were found to exist among the majority of recreation departments throughout GA in the following areas: education for leisure; demonstration projects and research; orientation processes; and mobile facility use. In addition, some diffs exist among the 5 service population categories which tend to indicate a superiority of departments in category 5 and an inferiority of departments in category 1 and 4 on a few standards. However, recreation departments are generally in compliance with the standards contained within this evaluative instrument, thus appearing to indicate a strong public recreation program throughout GA.

480. CHESNUTT, J. Thomas. The effects of a three week adventure-oriented program and a five week leadership-experience program upon the self-concept of counselors-in-training. Ed.D. in Recreation, 1980, 189 p. (G. S. O'Morrow)

The effects of the exp program upon the self-concepts of potential counselors was examined. The sample included 72 males, volunteer Ss between 14 and 17 yrs of age who belonged to one of 3 groups: the exp group (n=16) which participated in the exp counselor-in-training (CIT) program, a control group (n=10) which participated in a traditional CIT program and a second control group (n=46) which consisted of senior campers who received no CIT training. The Piers-Harris Children's Self Concept Scale was administered to all Ss at 4 diff times to measure self-concept, and demographic information was obtained through a questionnaire. The data were analyzed through ANOVA, ANCOVA, MANOVA and r. The exp CIT program did not appear to have an effect upon the self-concept scores either immediately or 5 mos after the program's completion. Slight tendencies did exist for younger individuals, younger siblings and individuals with past leadership experience to have high self-concepts. The results suggested the self-concept is relatively stable and requires much time and many experiences to change.

UNIVERSITY OF HOUSTON (W. P. Buckner)
HOUSTON, TX

481. THOMPSON, J. E. The effects of noise, anxiety levels, gender, and trials on the cognitive learning stage of a selected fine motor and a gross motor task. Ed.D. in Physical Education. 1980, 145 p. (J. R. Morrow, Jr. & H. B. W. Poindexter)

482. WENDT, J. C. Comparisons of prospective physical educators' work motivation, concerns and dogmatism during the professional preparation process. Ed.D. in Physical Education, 1979, 110 p. (Bain, Jackson)
Fuller hypothesized that the prospective teachers' concerns toward teaching were hierarchically arranged beginning with primary concern for self. Once these concerns were met, the prospective teacher ultimately becomes concerned with managing situational tasks and helping students learn. Fuller suggests that these concerns can be met through a professional preparation program. Psychological needs are related to concerns which may not change if high dogmatism exists within the individual. The nature of differences should be seen in the hierarchical ordering set forth by Fuller. Using 80 PE and HE prospective teachers, a random sample of students enrolled in the first professional preparation course represented phase 1 of the program. Phases 2 and 3 consisted of student teachers who were randomly placed in 1 of 2 groups, 1 group being tested before student teaching and the other after. The dependent variables were the concerns for self, task and impact; their motivation toward work; and their degree of open or closed mindedness. The phase of preparation was the independent variable. MANOVA revealed that the M vectors for the phases were not different. Fuller's hypothesis of concerns could not be substantiated with this sample, and post hoc analyses showed that age, gender, work motivation, and dogmatism did not have an interactive effect on concerns.

UNIVERSITY OF ILLINOIS (Marian E. Kneer)
CHICAGO CIRCLE, IL

483. DINGMAN, D. J. Anthropometric Estimation of Percent Body Fat in Obese Males. M.S. in Physical Education, 1980, 55 p. (D. G. Scherrer)

UNIVERSITY OF ILLINOIS
URBANA-CHAMPAIGN, IL

484. ALLISON, Maria T. A structural analysis of Navajo basketball. Ph.D. in Physical Education, 1980. 215 p. (G. Jueschen)

485. CHRISTENSEN, Charlene E. An exploratory study on athletes' perceptions of athletic scholarships. Ph.D. in Physical Education, 1980, 189 p. (R. G. Wright)

486. GIVENS, Michael W. The effects of variability of practice on the learning of a motor task. Ph.D. in Physical Education, 1980, 218 p. (M. Souder)

487. GOING, Scott B. Maximal effort static force-time curves in children, eight through eleven years of age. M. S. in Physical Education, 1980, 160 p. (B. H. Massey)

488. HENDRIX, Melissa Kay. Incidence of menstrual disorders in female collegiate athletes and its relation to body fat content during the competitive season. M. S. in Physical Education, 1980, 132 p. (T. Lohman).

489. KOVIC, Thomas K. The history of play in twentieth century American education. M. S. T. in Physical Education, 1980, 25 p. (A. T. Cheska)

490. LIN, Der C. Optimal movement patterns of the lower extremity in running. Ph.D. in Physical Education, 1980, 235 p. (C. J. Dillman)

491. SEAWARD, Brian F. The effects of maximal isometric contraction produced by the muscles of the arm and legs on blood pressure and heart rate in young adults M. S. in Physical Education, 1980. 127 p. (B. Massey)

492. SPINK, Kevin S. The role of ego-involvement, objective outcome, and performance in the determination of causal attributions. Ph.D. in Physical Education, 1980, 94 p. (G. Roberts)

UNIVERSITY OF IOWA (G. M. Asprey)
IOWA CITY, IO

493. BAKER, John A. W. Determination of common characteristics of outstanding doctoral programs in physical education in the United States. Ph.D. in Administration, 1979, 122 p. (G. F. Hansen, L. E. Alley)

494. CAMPOS, J. L., Jr. Comparison of strength development of adult males and females undergoing dynamic weight training. M. A., 1980, 60 p. (D. R. Casady)

495. CHANG, Chih-man Jim. Tests of fundamental badminton skills for college students: Construction, analysis and norms. Ph.D. in Measurement, 1980, 162 p. (D. R. Casady, L. S. Feldt)

496. DOSTAL, William F. The prediction of coordinates of bony landmark and hip muscle attachment points. Ph. D. in Therapeutics, 1979, 347 p. (G. L. Smidt, G. L. Soderberg)

497. FREKANY, George A. Stage analysis of response programming. Ph.D. in Motor Learning, 1980, 185 p. (D. D. Larish)

498. MORIOKA, Haruko N. Selected personal characteristics and teaching techniques of modern dance teachers considered important by college students in modern dance. M. A., 1980, 118 p. (L. E. Alley, J. N. Allen)

499. MURPHY, Robert D. Professional-discipline orientation in undergraduate curriculums for preparation of teachers of physical education. Ph.D. in Curriculum, 1980, 163 p. (D. K. Leslie, L. E. Alley)

500. PUTNAM, Carol A. Segment interaction in selected two-segment motions. Ph.D. in Biomechanics, 1980, 253 p. (J. G. Hay, J. G. Andrews)

501. SOUTHARD, Dan L. Relationships between important competencies and curriculums in physical education in Iowa High Schools. Ph.D. in Curriculum, 1980, 124 p. (L. E. Alley, D. K. Leslie)

502. VAILAS, Arthur C. Influence of physical activity on the repair process of medial collateral ligaments in rats. Ph.D. in Exercise Physiology, 1979, 249 p. (C. M. Tipton)

503. VAUGHAN, Christopher L. An optimization approach to closed loop problems in biomechanics. Ph.D. in Biomechanics, 1980, 280 p. (J. G. Hay, J. G. Andrews)

UNIVERSITY OF MARYLAND (D. Kelley)
COLLEGE PARK, MD

504. CONCANNON, M. The relationship between introversion-extroversion, somatotype, and nervous system strength. Ph.D. in Physical Education, 1980, 164 p. (B. F. Husman)

Male and female introverts and extroverts were identified from an initial sample of 492 undergraduate psychology students on the Eysenck Personality Inventory (EIP). Those falling in the extreme groups on the EPI E scale were randomly selected to participate. An attempt was made to relate simultaneously introversion-extroversion (E) somatotype as measured by the Heath-Carter Somatotype Method (HCSM) and the constructs of nervous system strength and dynamism (Nebylitsyn, 1972). In this double-blind study, Ss were administered orally either 200 mg of caffeine or a placebo prior to an electrodermal habituation protocol. The dependent measures were initial response amplitude, habituation slope $\sqrt{\Delta SC}$ and the 3 scales of the HCSM. 64 Ss (16 male introverts, 16 female introverts, 16 male extroverts and 16 female extroverts) provided electrodermal data. MANOVA revealed only a sig sex effect, predictably being accounted for by females being less muscular, less linear and fatter than males. Males, however, habituated more slowly. There was a sig univariate caffeine effect upon initial response amplitude but, contrary to prediction, the placebo condition produced larger initial responses, and this effect was independent of E scale scores.

UNIVERSITY OF MASSACHUSETTS (Spears)
AMHERST, MA

505. ROSE, D. A. Physical culture: A critique of the American sociological study of sport. Ph.D. in Sport Studies, 1980, 480 p. (Betty Spears)

This study critically examined both American sociology of sport and the programs of the American sports world. Particular attention was paid to the concepts, amateur and professional. Using a variety of primary and secondary materials, concepts were evaluated by examining historically the operation of programs. Programs analyzed, especially since 1945, included professional sport leagues, notably the MLB and the NFL, intercollegiate athletics, and PE. Key findings included: The commercial unit of American professional sport is the league, not the franchise; thus, American pro sport is sport owned by capitalists and operated in a way which strives to reinforce the ideology of American Capitalism. In intercollegiate athletics, the present state of the controversy over whether athletes are amateur or professional is better understood as the question, "Are programs acceptably or unacceptably professional, given their prior operation as semi-professional sport (sport in which teams represent the quality of schools)?" In the present system, e.g., athletic scholarships are a form of wage which is acceptable if given to a competent student. Current problems re the focus and nature of the discipline of PE can be resolved only if the discipline is recognized to be physical culture, a form of culture in which movement is the medium of expression. Programs developing competence in this form are quasi-amateur. Only recreational programs are amateur.

UNIVERSITY OF MINNESOTA (John F. Alexander)
MINNEAPOLIS, MN

506. BEN-SIRA, D. A comparison of the mechanical characteristics of the instep kick between skilled soccer players and novices. Ph.D. in Physical Education, 1980, 176 p. (L. J. Stoner)

Professional (n=7), college players (n=7) and novices (n=14) were compared on the execution of the soccer instep kick toward a target at a distance of 45 m by a 16 mm camera at 200 fps. A 10-segment multilink model of the kicker was used in the kinematic and kinetic analyses of the digitized film record. The criterion variable for effectiveness was the post-impact velocity. Professional and college players, not differing with respect to this criterion, were combined into one group of skilled (SK) performers, and found to be superior to unskilled (USK) performers. The 2 groups were not sig diff regarding precontact momentum of the kicking extremity, but differed on several kinematic movement characteristics. SK performers contacted the ball closer to the ankle and exhibited less "give" at this joint. SK players positioned their support foot alongside the ball while USK tended to position it behind the ball. The SK group exhibited greater hip angle at contact and, at max hip extension, had longer relative stride length and temporarily closer occurrence of selected events (max knee flexion, max hip extension) to contact time. Results do not support the theory that greater pre-contact momentum is the most crucial factor characterizing high level of performance in striking activities. The manner of contact between the performer - object seems to better distinguish performances.

507. CHIEN, I. The effect of training and competition on physiological and psychological measures in university varsity ice hockey players. Ph.D. in Physical Education, 1978, 169 p. (J. G. Alexander and M. L. Krotee)

21 male Ss, aged 18-23, were involved in a 20 wk training and 8 wk detraining study. One way-ANOVAs and post hoc tests revealed that a season of training and competition had little effect on max VO_2, but associated oxygen extraction, R.Q. and submax HR improved ($p < .05$). Submax and max HR increased and max VO_2 decreased ($p < .05$) during detraining. Personality traits from the California Personality Inventory (CPI) remained stable except for femininity which decreased ($P < .05$) during training. 6 factors from the Profile of Mood States (POMS) increased during the training season, and 4 decreased during detraining. During detraining total physical activity correlated ($r = .73$ $p < .05$) with % decrease in max VO_2. Participation in physical activities at 70-80% of max VO_2, 3-4 days/wk for 50-60 min retained about 95% of the peak season maximal aerobic capacity.

508. DECKER, J. A. Recreation and community education directors' perceptions of recreation services for the mentally retarded in Minnesota communities. Ph.D. in Education (Recreation, Park and Leisure Studies) 1980, 191 p. (J. Schultz)

Perceptions of recreation and community education directors in non-metropolitan communities of Minnesota were sought to understand how they view their services in relation to mentally retarded persons in the midst of the normalization and deinstitutionalization movements. Rural sociological theory was applied to ascertain how the structure of the rural environment influences directors' perceptions of services to the retarded population. Size of community was the basic independent variable. A questionnaire was sent to the entire rural/non-metropolitan population of 299 directors of local recreation programs. The Gamma Ratio was used to test strength of relationships among variables. Findings showed that the smaller the community: the more the "accessible" form of service was favored; the less mentally retarded persons are participating in recreation programs; the less recreation services for the retarded are considered basic to an overall program; and the larger is the group of perceived informal providers of recreation services. The main conclusion was that both the directors' perceptions of services to the retarded population and the services rendered were influenced more by the size of community in which they serve than by their personal characteristics.

509. SENNEWALD, C. M. Effects of heavy resistance, low repetition training on strength and endurance in college women. M. A. in Physical Education, 1980, 70 p. (G. A. Stull)

16 exp Ss completed 3 sets of 6 reps of elbow flexion against a 6-RM resistance 3 times per wk for 6 wks. All exp and control (n=11) Ss were pre- and post-tested by contracting maximally every other sec for 5 min. The progressive resistance training enhanced muscular strength ($p < .05$) but failed to alter endurance. Training also seemed to cause a slower rate of strength loss but larger decrement during the fatigue task. The two-component fatigue pattern was not altered by training.

510. STEVENSON, J. M. Timer and 35 mm camera instrumentation to investigate the release of baseball pitchers' fastballs and curveballs. Ph.D. in Physical Education, 1980, 220 p. (L. J. Stoner)

A portable six-channel timer was constructed with accuracy of 10^{-4} seconds and capability of being triggered by microswitches constructed for the thumb, index and middle fingers using 3M electrode tape, and a ball coated with silver electroconductive paint. Portable camera delay mechanisms were designed to trigger shutter release on two 35 mm cameras at foot plant and the moment of release of the pitch. 9 college pitchers threw a total of 104 fastballs and 88 curveballs, of which photographs of 48 fastballs and 38 curveballs were taken at the moment of release from the side and from the front. Release patterns of the fastball were thumb first followed by middle or index fingers, and curveball either thumb or middle finger first or second followed by index finger. Time from foot plant to release was shorter for fastballs than for curveballs. Stride for the fastball was longer and more open than for the curveball. Sideways lean, forward lean and release height were greater for curveballs than for fastballs. Body height, forward arm angle and sideways arm angle were greater for the fastball than for the curveball.

511. TANNER, P. M. *Attitudes toward high school sex education of sex educators, other teachers and adult public in three Oregon school districts*. Ph.D. in Education: Emphasis School Health Education, 1979, 163 p. (E. M. Jaeger, R. S. Cobb)

The purpose was to compare attitudes toward SHS sex education of sex educators with the adult public for 3 SHS areas. Attitudes of general SHS teachers were compared to the 1st 2 groups. 100% of sex educators and 90.6% of the public favored sex education in SHS. Excepting sexual techniques, greater proportions of the Ss accepted the 15 topics on the questionnaire in both groups. The general public preferred the sex educator to play a role in fostering abstinence from premarital coitus, with sex educators not wishing to play this role. Although the adult public approved of sex education, less than half believed that the public at large would share this view. Sex educators were generally more liberal in their attitudes toward sex related issues. High school teachers fell between sex educators and the general public. The most liberal segment of the general public were college graduates.

512. TRACY, M. L. *Cardiorespiratory responses of controlled frequency breathing during submaxial exercise*. M. A. in Physical Education, 1980, 29 p. (G. A. Stull)

10 females (mean VO_2 max = 46 $ml \cdot kg \cdot min^{-1}$) exercised 4 times on an electronic bicycle ergometer at 65% VO_2 max for 6 min followed by 10-min recovery periods. Ss breathed either ad lib or at a frequency of 15 breaths per min. Sig lower ($p < .05$) exercise HR (133.70 vs 138.07 bpm), VO_2 (1.67 vs 1.74 $l \cdot min^{-1}$), VCO_2 (1.47 vs 1.58 $l \cdot min^{-1}$), VE (38.92 vs 45.65 $l \cdot min^{-1}$) and O_2 vent equiv (23.36 vs 26.48) were observed during the experimental breathing treatment. Recovery

HR (73.39 vs 75.11 bpm) and O_2 vent equiv (31.62 vs 33.10) were also sig lower following experimental breathing. No other cardiorespiratory variables, including exercise RQ and breathing frequency during recovery, were sig affected.

513. VANCE, L. E. Age and sex as factors in generality of dynamic balance performance. Ph.D. in Education (Physical Education), 1977, 150 p. (J. Shick)

Dynamic balance tasks (Cron-Pronko Test, Springfield Beam Walking Test, Bass Stepping Stone Test and the Johnson Stagger Jump Test) were administered on 2 successive days to 180 males and females in 3 age groups--7-8, 11-12 and 15-16. Comparisons of mean performance levels using the t test indicated no sex diff in balance performance. A 1-way ANOVA and Tukey's HSD Test applied to group mean scores suggested that balance performance increases with age with some evidence of a decline or leveling off in performance during puberty. Mean squares generated by a 3-way ANOVA, random effects model, were utilized to calculate variance attributed to the interaction of Ss and variables (specificity) to compute a generality/specificity ratio. The generality/specificity ratios produced no clear relationship between age and generality of dynamic balance performance. Generality levels were markedly higher for females than for males in 2 of the groups (ages 11-12 and 15-16), suggesting that, for these tasks, there was some sex diff in generality of balance performance.

UNIVERSITY OF MONTANA (Brian J. Sharkey)
MISSOULA, MO

514. KOROLUK, G. Calgary Mountain Club Analysis. M. S. in Physical Education, 1980, 52 p. (B. J. Sharkey)

515. SHACKLETT, R. D. Tennis ready position and total body movement time involved in the forehand return of service. M. S. in Health and Physical Education, 1980, 41 p. (K. E. Miller)

A sample of 10 male and 10 female high school and college skilled tennis athletes was filmed to investigate if the effects of 5 different positions and sex of the participant sig altered the total movement time for the tennis return of service. Movement time was measured as the time it took the athlete to complete his first step (lead foot movement ceases - heel upon playing surface) toward the ball. Results of a 2 x 5 ANOVA indicated no time differences among the positions tested, between men and women, and no interaction between sex of the S and ready positions. Teaching of the tennis return of ready position should conform to each individual player's needs.

516. SIO, T. H. Evaluation of the Forest Service Fitness Calculator as a predictor of maximal oxygen consumption. M. S. in Physical Education, 1980, 52 p. (B. J. Sharkey)

517. ZAUGG, M. K. Superstitious beliefs of basketball players. M. S. in Physical Education, 1980, 62 p. (B. J. Sharkey)

UNIVERSITY OF NEBRASKA (James O'Hanlar)
LINCOLN, NB

518. BLACK, P. O. An evaluation of the orthoponetic elements common to two methods of muscle tension reduction. M.Ed. in Physical Education, 1980, 89 p. (W. E. Sime)

Postural habits are frequently associated with excessive muscle tension. Thus it was hypothesized that tension reduction (Progessive Relaxation) and postural realignment (Alexander Training) would produce parallel training outcomes. Both techniques were compared with a control procedure before and after 3 wks of training. With 30 Ss per group, postural photography and electromyography (EMG) measures were taken before and after training. EMG measures from 3 muscle sites were recorded in 3 different conditions (resting supine, standing and during a fine motor task). The results from ANOVA showed a clear advantage for the Alexander Training with regard to postural assessment. There was sig decrease in EMG for all 3 groups, thus not supporting the hypothesis that relaxation training would produce greater EMG changes. There was no sig correlation between EMG changes and postural changes.

519. ERICKSON, L. L. An evaluation of an adolescent smoking education program. M.Ed. in Health Education, 1979, 104 p. (I. M. Newman)

Based on an analysis of attitudes and subjective norms related to cigarette smoking derived by using Fishbein's model of behavioral intention, a 1 wk, 5 hr educational program emphasizing the immediate physiological effects of smoking was developed. Following Campbell and Stanley's separate-sample pre-test-post-test control group designs, 677 7th grade students in 5 groups were involved in the study. Dependent variables were measures of self reported smoking behavior and behavioral intentions. The smoking education program had no statistically sig impact on the 7th grade students when the 3 control groups and the 2 exp groups were combined into 2 larger groups for analysis. When the proportion of intenders and nonintenders was examined, in every analysis a diff in the proportion of intenders and nonintenders was observed. In each case the diff indicated more nonintenders in the groups receiving the prevention-oriented educational program.

520. HAEKER, S. Coronary-prone behavior pattern, sex-role orientation and physiological reponse to stress. M.Ed. in Health Education, 1980, 59 p. (W. E. Sime)
The purpose of this study was to determine the relationship between Coronary-Prone Behavior Pattern (CPBP), Sex-Role Orientation and physiological response to emotional stress in middle-aged working women (M age = 37 yrs). CPBP was assessed by Jenkins Activity Survey and by interview according to Friedman and Rosenman. Sex-Role Orientation was assessed by the Bem Inventory for femininity, masculinity and adrogyny characteristics. HR, BP, skin conductance and skin temperature values were recorded before, during and after the interview and an ego-threatening quiz. % change values were correlated with CPBP and Sex-Role characteristics. In contrast to previous findings, there was no apparent relationship between CPBP and physiological response to stress, nor between CPBP and Sex-Role Orientation. Rather, a highly sig relationship was observed between response to stress and the androgynous Sex-Role characteristic indicating that the flexibility trait inherent in androgyny is associated with excessive physiological response to emotional stress.

521. KROHN, T. J. The relationship of attitudes, subjective normative factors and behavioral intentions to cigarette smoking in seventh grade students. M.Ed. in Health Education, 1979, 95 p. (I. M. Newman)
Measures of smoking behavior, behavioral intention, attitudes and subjective norms were assessed using a question-

naire based on Fishbein's model of behavioral intention. 356 7th grade students from 2 schools were involved in this study. The instrument predicted smoking intentions with a coefficient of .48 in school 1 and .52 in school 2. Sig diff in smokers and non-smokers were recorded in attitude measures related to cigarette smoking being relaxing, looking cool, being good for you, causing cough, getting suspended from school and causing a person to smell. Friends, brothers and sisters were identified as important persons in smoking decisions. This study suggested that smoking education should address issues related to the immediate effects of cigarette smoking.

522. McGAHAN, M. J. Stress response (physiological arousal) in field dependent/field independent and active/inactive females. M.Ed. in Physical Education, 1980, 80 p. (W. E. Sime)

60 female volunteers, age 18 to 22 years,were given Witkins Embedded Figures Test and Astrand's Submaximal Bicycle Ergometer Test for determination of fitness level and field dependence/independence. It was hypothesized that these two parameters would be related to physiological response to emotional stress. HR, skin conductance and skeletal muscle electromyography (EMG) were monitored before and after an intense anticipation stressor. Results showed a sig relationship between field dependence and fitness level. Leg EMG levels in response to stress were sig lower in the high fit students as compared to the low fit students. It was concluded that the relationship between physiological response to stress is only modestly related to fitness level and it is not related to field dependence.

UNIVERSITY OF NORTH CAROLINA (P. Berlin)
GREENSBORO, NC

523. ATKINSON, P. The interrelatedness of playfulness, communion and human transcendence: A philosophical inquiry. M. S., 1980, 150 p. (S. M. Robinson)

524. BENEDICT, K. Random sampling. M.F.A. in Dance. 1980, 29 p. (L. Andreasen)

525. BIRD, G. J. Sport motivation among three levels of high calibre soccer players. Ed.D. in Physical Education, 1980, 134 p. (P. Berlin)

The purpose of the study was to test the validity of the Berlin Sport Motivation Q Sort and to investigate diffs among high calibre soccer players in terms of their need for achievement, both as a general concept and as it relates specifically to sport, and of each of the motive categories encompassed in Berlin's model. 120 high calibre soccer players representing 3 levels of performance--juvenile, collegiate and professional--generated the data. Findings were not generalized beyond the samples studied and revealed: support for Berlin's idea that sport motivation is a manifestation of achievement motivation actualized by specific experiences to which athletes are exposed in the sport context; no diffs in both sport motivation and generalized motivation among junvenile, collegiate and professional high calibre soccer players; professional athletes have a tendency to be more responsive to mastery elements of sport motivation, collegiates to self-regard aspects of the construct, and juveniles to the mediational, i.e., situational, elements of the sport context than do either of the other performer levels; and in the light of the above, it is viable to continue the development of a behavioral model of sport motivation as a multidimensional analogue.

526. BYRNES, M. T. The relationship between self-esteem in teachers and the use of affective education in their classrooms. M.Ed., 1980, 38 p. (J. A. Fitch)

527. CARLSON, J. B. Probing and perceiving second graders' affective responses to movement experiences. Ed.D. in Physical Education, 1980, 284 p. (K. Barrett).
Through self-report, the personal meaning and sig of selected movement experiences of 2nd graders was assessed. Open-ended inquiry into the personal, affective dimensions of each child tapped attitudes and feelings with specific reference to 5 categories characterizing PE classes: environment, self, social interactions, content of PE, and teacher. Categories of self, physical and emotional, and content of PE were examined and interpreted. The self-report techniques used to gather affective responses included 3 distinct types of expression: written, artistic and discussion. The technique of content analysis was used to identify common characteristics of the responses, to make inferences and to describe the content of the responses. The breadth of responses, both written and verbal, was interpreted by selected criteria: uniqueness and diversity of individual responses;

consistency of responses among the group; depth of involvement in the responses; personal meaning and implication of the responses; and similarity of responses obtained from the 3 diff types of techniques. Clearly, the PE environment which characterized this study was a rich and varied setting for encouraging and obtaining affective responses. Children studied definitely shared feelings about experiences in PE. Responses were spontaneous, unpredictable and highly personal.

528. CORNING, C. A. Perceptions of women collegiate basketball players regarding the influence of the coach. M. S., 1980, 83 p. (P. Berlin)

529. DAVIS, G. C. A one-item shooting test of gamelike basketball skills. M. S., 1980, 143 p. (S. M. Robinson)

530. DAWSON, J. E. Attitudes toward physical activity held by elementary school personnel of the Abbeville County, South Carolina school district. M. S. in Physical Education, 1980, 154 p. (G M. Hennis)

531. DESENSI, J. T. A study of Martin Buber's I-Thou and I-It relationships in sport. Ed.D. in Physical Education, 1980, 207 p. (R. McGee)

The purpose of this study was to explore the potential for Martin Buber's I-Thou relationship during professional sport competition. Human regard and nonhuman responses toward the other in sport were sought. A structured interview was constructed incorporating questions with regard to mutuality, directness, presentness, intensity and ineffability of the I-Thou encounter. Interviews of 2 women and 3 men professional tennis, football, ice hockey and soccer players were reviewed for evidence regarding the potential for the I-Thou relationship as well as I-It experiences. Both human and nonhuman regard for others was expressed by the athletes. Although the Ss acknowledged some human qualities within all the characteristics of the I-Thou encounter except intensity, they did not express relationship to the extent of genuine dialogical encounter. A majority of the responses were of I-It experiences. The Ss tended to be analytical and objective rather than subjective in their responses regarding teammates and opponents. Qualities of both the I-Thou and I-It theories of relationship were expressed in professional sport, but the objective world of it appeared dominant in the Ss' responses. It was concluded that the I-Thou encounter cannot be verified since its subjective, elusive and mystical nature is of an ineffable quality.

532. FERGUSON, M. K. The effects of coeducational classes, sex, and locus of control on levels of aspiration of high school girls and boys. M. S. in Physical Education, 1979, 106 p. (T. Martinek)

533. GRASTORF, J. E. Nonverbal behaviors of collegiate female volleyball and basketball coaches as recalled by athletes and coaches. Ed.D. in Physical Education, 1980, 193 p. (E. D. McKinney)

The study explored and identified selected observable nonverbal behaviors of female coaches in practice and game situations. 23 coaches and 118 athletes, representing 27 teams from 25 randomly selected colleges and universities, completed the Nonverbal Behavior Descriptor Questionnaire (NBDQ). Analyses of the NBDQ nominal data included frequency counts, McNemar's test for related samples, and the chi-square test of independence. Results indicated that both similarities and diffs existed in practice and game behaviors recalled by coaches and athletes as displayed-never displayed. Diffs existed in coach and athlete descriptions of practice and games behaviors described as instructional-personal. Finally, individual coaches and their athletes did not recall displayed-never displayed nonverbal behaviors identically.

534. HIGHTOWER, L. J. Sex differences in sport involvement: A study of the role of parents, peers and physical education teachers. M. S., 1980, 79 p. (T. J. Martinek)

535. JACKSON, A. J. Case studies of fearful adult nonswimmers. M. S., 1980, 77 p. (S. M. Robinson)

536. JENNINGS, A. A history of physical education, intercollegiate and intramural athletics at Guilford College, 1937-1979. M.Ed., 1980, 107 p. (W. M. Ladd)

537. KEMP, J. Perceived family influences on the socialization of sixth grade girls and boys into sport. M.Ed., 1980, 117 p. (M. Riley)

538. KISABETH, K. L. A child's movement performance using labanotation and referenced to the Laban framework: A case study. Ed.D. in Physical Education, 1980, 223 p. (R. McGee)

The observable movement behavior in the performance of a child attempting to perform a complex movement task from a visual model was examined. The usefulness of Labanotation as a method for data recording in the study of complex manipulative movement was also explored. The complex movement task required the child to strike a ball with different body parts - to use all the spaces around the body - to vary effort - and to move in relation to the ball. Video tapes of the child's movement performance were made on 6 separate days, during a 2-wk period. The movement data were Labanotated from the video tapes,then transcribed and analyzed. Frequency counts indicated an increased number of steps, an increased frequency of strikes, an increased use of high level for striking,and a shift from "Punches" to "Dabs" in striking. Medians for movement sequence variables indicated an increased length in ball control time. Analysis of movement component use indicated that the child used: the largest number of body parts for striking on Days 1 and 2, the widest variety of effort actions on Days 2 and 3, and the largest variety of compound directions and levels on Day 3. Labanotation was versatile enough to record data in this complex movement task.

539. LANE, J. Main Street. M.F.A. in Dance, 1980, 18 p. (G. E. Cheney)

540. LEUNG, M. W. An investigation of the relationship between playfulness and television viewing among elementary school children. M. S., 1980, 120 p. (S. M. Robinson)

541. LEVY, D. L. Looking back. M.F.A. in Dance, 1980, 33 p. (G. E. Cheney)

542. MACDONALD, K. E. Leisure activities engaged in during non-school hours by nine and ten year old children in selected independent schools. M. S., 1980, 54 p. (S. M. Robinson)

543. MANN, B. May the saints preserve us. M.F.A. in Dance, 1980, 37 p. (G. E. Cheney.

544. McDUFFIE, R. An investigation of performance consistency of intercollegiate and interscholastic basketball officials. Ed.D., 1980, 157 p. (G. M. Hennis)

545. MILAN, I. G. Effect of a parent education course on participants' self-concept. M.Ed., 1980, 49 p. (R. Vincent)

546. MOLSTAD, S. M. Reentry women: The relationship of Q-ach, extraversion-introversion, and locus of control to physical persistence on two psychomotor tasks. Ed.D. in Physical Education, 1980, 152 p. (P. Berlin)

The purpose of the study was to examine the relationship of selected psychological variables to physical tasks persistence. Temporal persistence on a gross physical balance task and an eye-hand manipulative task was collected from 35 traditional and 35 reentry women undergraduates. Achievement motivation, extraversion, and internal locus of control scales were also administered as well as a Personal Data Questionnaire. One sig diff was found between the samples on the measures. Traditional women persisted sig longer on the gross physical balance task than reentry women. The Ss were equally persistent on the eye-hand task, highly achievement oriented, moderately extraverted and internally controlled. Discriminant analyses to predict "low" and "high" persisters from the psychological variables were nonsignificant. One follow-up analysis based on items from the Personal Data Questionnaire was sig. Persistence for all Ss on the gross task could be predicted correctly 64.45% of the time from present and past level of involvement in physical activity, age, and socioeconomic status. It was hypothesized that factors other than those examined may have moderated the effect of the predictor variables. Implications of the findings for motor skills acquisition and the nature of college and university education programs were noted.

547. OUSSATY, J. An adaptation of Metheny's meaning of movement constructs into a children's story. M. S. 1980, 117 p. (R. McGee)

548. PRESTON, S. Q. An investigation of attitudes toward the concept of human sterilization. M.Ed., 1980, 44 p. (T. M. Mommsen)

549. ROVEGNO, I. A creative presentation of a gym teacher's perceptions. M. S., 1980, 128 p. (G. M. Hennis)

550. RUSZOVAN, V. J. Relationship between program goals and attitudes of instructors and students in general college physical education. M. S., 1980, 128 p. (S. M. Robinson)

551. SCHILLING, T. M. The construction of an instrument to measure the attitudes and knowledge of public school physical educators about mainstreaming. M.Ed. 1980, 96 p. (R. McGee)

552. SILVER, D. B. Dark crystals. M.F.A. in Dance, 1980, 33 p. (L. Andreasen)

553. STONE, M. J. A comparison of student self-perceptions and teacher-student perceptions on selected behavioral descriptions in junior high school physical educational classes. M. S., 1979, 83 p. (T. J. Martinek)

554. TILYARD, L. N. Relationship among self-esteem, premarital sexual activity, and marijuana use of a sample of unmarried students at the University of North Carolina at Greensboro. M.Ed., 1980, 50 p. (M. B. Dignan)

555. WATSON, J. C. Ethel Loroline Martus Lawther: Her contributions to physical education. Ed.D. in Physical Education, 1980, 315 p. (R. McGee)

The professional biography of Ethel Loroline Martus Lawther attempted to trace and identify her professional contributions and show the resulting influence on PE. To accomplish this objective, it was necessary to consider 3 supplementary problems: the development of the achievements and professional activity of Mrs. Lawther during the preparation for the early yrs of her teaching career; the major developments of the School of HPER at the University of North Carolina at Greensboro and to make critical assessment of her role as its chief administrator; and the contributions of Ethel Loroline Martus Lawther to PE through leadership positions in professional associations. The historical method was utilized, and data were organized in a combination of both topical and chronological order. Both primary and secondary sources and relevant selected records provided the basis for the study. Findings revealed that throughout her yrs as a teacher and administrator, students continued to be her greatest concern. In sum, she was a nationally recognized leader in PE who worked diligently to establish quality standards in professional preparation and to make a secure position for PE as an integral part of the total education of individuals.

556. WHISNANT, K. Archipelago: Concept and choreographic realization. M.F.A. in Dance, 1980, 42 P. (G. E. Cheney)

557. WHITAKER, K. G. Sports as finite provinces of meaning: An application of the phenomenology of Alfred Schutz. Ed.D. in Physical Education, 1980, 104 p. (G. Hennis)

Schutz's phenomenological theory of internal time consciousness was reviewed. According to the theory, a phase of the individual's flow of conscious experience can be constituted as a discrete object of attention. The meaning of such an isolated experience is defined as the individual's reflective attitude when attending to the experience. A finite province of meaning is, according to Schutz, a set of individual's experiences which exhibit a characteristic cognitive style and whose meanings are mutually compatible with respect to that style. It was argued that the set of the individual's participatory experiences in any sport displays a unique cognitive style and thus constitutes a finite province of meaning. As an example, the cognitive style of the sport of singles tennis was discussed. Reflective acts within a finite province of meaning result in meanings which have the cognitive style of the province in common. Therefore, when the individual enters into participation in a sport, a sig aspect of the meanings of the sport experiences is predetermined. Further, the meanings of sport experiences are fundamentally diff when the experiences are reflected upon within diff finite provinces of meaning.

558. WHITLEY, P. R. Dr. Charles Buell: Leader in physical education for the visually impaired. Ed.D. in Physical Education, 1980, 217 p. (G. Hennis)

The purpose of this study was to present a biographical picture of Dr. Charles Buell. The writer attempted to trace and identify the professional contributions of Dr. Buell and to examine his influence on physical activities for the visually impaired. Enough detail was given of his life to point out the qualiities in the man which enabled him to gain the recognition he has. To accomplish this objective, 5 questions were considered: What events took place during his formative years? What were the achievements and professional activities of Charles Buell during the preparation for and the yrs of his teaching and coaching career? What were Charles Buell's contributions to PE for the visually impaired through professional organizations? What were Charles Buell's basic concepts and beliefs? What has been the role of Dr. Buell's wife? This historical method was utilized for this study. Data were organized using a combination of topological and chronological order. The writer's procedures for gathering data were categorized into 5 areas: the S and his family, colleagues and professional associates, athletes, students, and file and newspaper articles and publications.

559. YOPP, A. M. Stages, levels and seasons. M.F.A. in Dance, 1980, 34 p. (G. E. Cheney)

560. YOUNG, V. M. A study of the Piedmont Health System Agency Board of Directors' attitudes and perceptions toward participation in health planning as mandated by the National Health Planning and Resources Development Act of 1974. M.Ed., 1980, 51 p. (R. Vincent)

UNIVERSITY OF NORTHERN COLORADO (M. Behling)
GREELEY, CO

561. CANFIELD, Donald. A descriptive study of undergraduate physical education programs at four-year colleges and universities in the Central District. Ed.D. in Health and Physical Education, 1980, 298 p. (R. Montgomery)

562. EITTER, Thomas J. Pain tolerance training applied to the athletic environment. Ed.D. in Health and Physical Education, 1980, 118 p (George H. Sage)

An isokinetic training program (ITP) was investigated as a means of increasing pain tolerance (PT) and to determine if a relationship existed between tactile stimulus reaction time (TSRT) and PT. Ss participating in the study were male college students from 3 intact groups: contact sport athletes, endurance athletes and nonathletes. Contact sport athletes were further classified into subgroups of underclassmen or upperclassmen. The ITP consisted of 32 work-out sessions using a progressive circuit-training program. Measurements were taken for each S (n=45). The test for TSRT was administered prior to exposure to the ITP. Pretests and posttests were administered for both gross pressure and ischemic PT. ANOVA with a treatment by levels design was used to compare the pretest and posttest measures. Correlational analysis was used to assess the relationship between TSRT and pretest and posttest PT measures. ANOVA was used to compare the sub-group of contact sport athletes. Sig changes were found in both PT measures for the total group of Ss as well as for each of the athletic classifications. TSRT and the experience of contact sport athletes were not found to be sig factors.

563. GREEN, L. B. The relationship between leadership style, performance variables, and a specific self-concept of ability. Ed.D. in Health and Physical Education, 1980, 130 p. (George H. Sage)

Athletes' perceptions of their coaches' leadership styles were operationally defined into autocratic, democratic and situation-specific subscales. The other independent variables included won-loss records for their respective teams, athletes' status as starter or nonstarter, and athletes' gender. This study investigated the relationship between these independent variables and the dependent variable, the athletes' self-concept of athletic ability. The Managerial Philosophy Scale (Modified Version), the Self-Concept of Athletic Ability Scale and questions assessing the other variables were administered to the male and female SHS varsity basketball players in the Northern Colorado area. Findings of the multiple regression analysis indicated that the athletes' perceptions of their coaches' leadership styles were sig related to their self-concepts of athletic ability. In addition, athlete perceptions of autocratic, democratic and situation-specific leadership were associated with self-concepts of athletic ability in a hierarchical fashion; i.e., lowest self-concepts of athletic ability with autocratic, medium range with democratic and highest scores with situation-specific. The only other variable shown to be sig related to self-concept of athletic ability was the athlete's status as starter or non-starter. It was concluded that administrators and coaches should become sensitive to their potential influence on the psycho-social development of the athletes involved in organized athletics. The findings of this investigation also support the recognition of a role-specific self-conceptualization process.

564. HANNON, Patrick R. The effect of manipulated subject attributions after low performance upon motivation to continue participation on a selected motor task. Ed. D. in Health and Physical Education, 1980, 79 p. (G. H. Sage)

The problem investigated in this study stemmed from a quest for understanding why some students in PE classes become discouraged and discontinue their active participation in a sport after initial low performances. It seems that erroneous subject-perceived causal attributions may decrease a S's motivation to continue participation in a sport. 94 male and female college students were tested over a 5 wk period at Middle Tennessee State University. The task was a fine motor skill called the Labyrintspel which required Ss to move a small steel ball through a numbered maze. Sex and an attribution treatment served as the independent variables. The dependent variable, continuing motivation, was assessed by a time measure (i.e., Mot. 1) and a S self-report measure (i.e., Mot. 2). A two-way ANOVA was used for each of the two motivation measures. Results indicated no sig diffs between the sexes or between the attribution treatment groups. These findings are discussed in terms of the difficulty in attempting a manipulation of Ss' causal attributions for past motor performance.

565. KIRK, C.C. An analysis of the relationships between life events, trait anxiety, academic productivity, and seriousness of illness in college students. Ed.D. in Health and Physical Education, 1980, 71 p. (W. G. Parkos)

It was hypothesized that the independent variables of life events, trait anxiety and GPA would be sig predictors of the dependent variable, illness; that there would be negative correlations between GPA and the variable LET (life events, total), LEN (life events negative), and TA (trait anxiety); and, that LEN would be a stronger predictor of illness than LET. A cluster sampling technique was used to select 440 male and female undergraduate students enrolled at the University of Northern Colorado, Greeley, Spring quarter, 1980. All variables with the exception of GPA were measured via pencil-paper tests, the order of which was randomly assigned. Statistical analyses included stepwise multiple-regression analysis, correlation analysis, Fisher's Z_r transformation and the t-test of unrelated measures. It was concluded that of the predictor variables, life events and trait anxiety, were the strongest predictors while GPA was not a predictor of illness. The researcher speculated that due to the multi-etiological origin of disease, the R^2 values, which ranged from 22.7% to 32.4% for life events and trait anxiety, were high. Therefore, life events and trait anxiety merit further study as possible risk factors in the onset and development of disease.

566. KNUDSON, Lyle E. A three-dimensional computer model of whole-body human motion. Ed.D. in Health and Physical Education, 1980, 176 p. (J. Barham)

567. NG, Nelson. A technique for the cinematographic and dynamometric analysis of the twisting back somersault in floor exercise. Ed.D. in Health and Physical Education, 1980, 150 p. (J. Barham)

568. ROBINSON, James III. The effects of three alcohol instruction programs on the knowledge, attitudes, and drinking behaviors of college students. Ed.D. in Health Education, 1980, 209 p. (W. G. Parkos)
The outcomes from implicit instruction (II), explicit instruction (EI), and values clarification instruction (VCI) were explored. Each treatment was administered over 4, 50-min class sessions. Pretest, posttest, and followup data were collected via a four-part, 55 item, self-reported questionnaire. At posttest all 3 treatment groups exhibited sig higher knowledge gains than did the control group. Attitudes toward moderate consumption within the EI group improved through the testing occasions, and their followup scores were sig more favorable than the VCI group. Within the EI group there were also sig improvements in attitudes toward refusal to consume alcoholic beverages. Attitudes toward drinking self-awareness within the II group became sig less favorable through the testing occasions. The EI group reported sig less average consumption than did the control group at posttest. Within the control group there was sig deterioration in intended drinking behaviors, particularly with respect to drinking and driving, and one's acceptance of the non-drinker. Overall results of this

study suggest that, though all treatments are capable of increasing knowledge, attitudes and behaviors are more likely to be influenced by an explicit form of alcohol education.

569. VARNER, Cleddy L. The development of an undergraduate recreation curriculum for Abilene Christian University. Ed.D. in Health and Physical Education, 1980, 143 p. (M. Shirley)

The undergraduate curriculum developed for Abilene Christian University was based upon results from an investigation of the present and projected personnel needs of municipal REC departments in TX and the needs of youth ministers of the Churches of Christ relative to preparation in REC skills and leadership. Information was gathered from TX municipal REC superintendents and youth ministers of the Churches of Christ in TX. There was a strong preference by REC superintendents for an educational background in REC for their employees. 60% preferred a B.S. in REC whereas 25% preferred an M.S. in REC. 306 new positions of employment were projected for 1978-1983 with supervision being the major area of need. Inadequacies of 1st-yr. REC graduates were identified as supervision, administration, public relations, and practical experience. 34% of the training of youth ministers for the social and REC facets of their ministry was in required PE classes. 20% of the respondents had no special training or experience in REC. The ministers gave favorable responses to continuing education programs, REC minor, and all projections in preparing future youth ministers.

UNIVERSITY OF OKLAHOMA (T. Gabert)
NORMAN, OK

570. CROSS, T. S. Biomechanical analysis of the double backward somersault. Master of Science in Health, Physicial Education and Recreation, 1980, 75 p. (G. Shierman)

The double backward somersault (DBS) is a highly complex task; the learning of the stunt requires accurate knowledge of the movement to permit precise teaching methods of this skill. Members (N=5) of the University of Oklahoma Men's Varsity Gymnastics Team, each competent in performing the DBS without the use of artifical aids or spotters, served as Ss. Each S was asked to perform a short run, hurdle step, roundoff and back handspring as preparatory movement to the DBS. Photographing at 48 frames per second, a total

15 trials were filmed, each beginning with the final leg snapdown from the preparatory back handspring through completion and landing of the DBS. Data were computed as to the joint angle measurements at the knee, hip, shoulder and neck, height of center of gravity during selected moments of the skill, and timing the phases and overall flight of each trial. The importance in gaining vertical height was apparent by an average of a 23.03 in rise of the center of gravity during the flight. The conclusion elicited from this study indicated that the ability to complete one and one-half somersaults during the ascending stage of flight was not an important factor in the completion of a DBS for elite level gymnasts. Essential points to be included in the learning of the DBS are: to learn to block the shoulder at takeoff by placing the head at a slight tilt forward toward the chest, and lifting the arms forward and up with great force to a level no higher than the forehead; to complete a single somersault rotation at approximately 24 in. above standing height and prior to the descending phase of the flight; and that the body should be rounded and tight with the head tilted slightly forward.

571. DICARLO, S. E. The effects of isometric training on cardiovascular and metabolic responses to isometric stress. M. S. in HPER, 1980, 113 p. (R. A. Ratliff)
The effects of a 4-wk documented isometric training program on physiological responses for each of 3 min at 10%, 20%, 30% and 40% of S's max voluntary contraction (MVC) was studied. Determination of % of MVC and duration of contraction for abrupt increases in cardiopulmonary responses was studied. The relationship between systemic O_2 consumption and myocardial O_2 consumption was investigated. The research design included pre-evaluation of responses during 3 min of continuous isometric handgrip contraction at each % mentioned. 4 Ss took part in the training program while 4 Ss served as the control. The training program was followed by post-evaluation at the same absolute resistance and same relative resistance as in the pretraining evaluation. Results showed no directional diff between the pretraining and posttraining evaluations. The abrupt physiological response increases occurred during the 1st min at 30% of MVC for arterial blood pressure responses and during the 3rd min at 40% of MVC for heart rate responses. The relationship between myocardial O_2 consumption and systemic O_2 consumption was $r = .81$.

572. DYKE, W. F. The socialization of female college athletes: Factors relevant to athletic participation and college choice. M. S. in Physical Education, 1980, 54 p. (R. C. Woodford)

The investigation identified university characteristics and role models that are important factors affecting college female athletes' choice of university enrollment. A questionnaire was administered to (n=118) female college athletes at 4 major southwestern universities. The Ss were asked to prioritize 40 characteristics as being important or not important influences with regard to affecting college choice and influencing their collegiate ahtletic ambitions. Questionnaire responses were rank ordered in an effort to identify what % of the sample considered each of the list items as important socializing agents. A three-way ANOVA was used to test response choices across categories of the athletes' sport, school and scholarship status. Results revealed that academic and athletic characteristics were influential for determining female athletes' college choice. Important role models for college female athletes were athletic coaches and parents. Differences occurred by school for university emphasis on academic programs, the importance of female college athletes being role models for females, and satisfaction with having winning programs in women's sports. Scholarship athletes and non-scholarship Ss responded differently to questionnaire items pertaining to female athletic satisfaction with, and university emphasis on, scholarship provisions.

573. LOWERY, J. J. The effects of static stretching and jogging on hip joint flexibility of fourth graders. M. S. in HPER, 1980, 87 p. (R. A. Ratliff)

574. MOORE, P. J. Expectancy, sex and locus of control as factors in performance ratings. M. S. in Health Physical Education and Recreation, 1980, 61 p. (Trent E. Gabert)

The study was initiated to determine the effect of expectancy, sex and locus of control of an evaluator for gymnastics performance. Ss were 47 PE majors, 23 males and 24 females, ranging in age from 18 to 28 with no previous background in gymnastics judging. Three groups, matched on the basis of sex and locus of control, were subjected to an artificially-induced expectation for a gymnastics performance, either a positive expectancy, a negative expectancy, or no expectancy (control). Each group viewed and rated videotaped performances of gymnastic floor exercise routines that were identical except in individual execution. Ss were also asked to fill out a Self-Concept questionnaire which was a manipulation check on the degree of confidence they had in their estimates. The study employed the use of ANOVA procedures with a 3 x 2 x 2 (Expectancy x Sex x Locus of Control) design with level of significance set at $p \leq .05$. Results supported the hypothesis that evaluators would rate performance in line with their expectancy for the performance either high or low. No main effects were found for sex or locus of control. An interaction effect was found between sex and locus of control when the analysis used only IE extremes. Female externals rated performances higher ($p < .05$) than all other evaluators. Results of the questionnaire responses revealed that the positive expectancy group rated themselves more favorably than the other groups on the responses of "Relaxed" and "Behaved Consistently".

575. TWIBELL, J. A. Effect of training and body composition on women exposed to heat stress. M. S. in HPER, 1980, 63 p. (R. A. Ratliff)

UNIVERSITY OF OREGON (Edward Reuter)
EUGENE, OR

576. ABDELKADER, M. Physique type, personality and sex role stereotypes of Egyptian physical education students. Ph.D. in Physical Education, 1980, 161 p. (J. Broekhoff)

Heath-Carter somatotypes were established for 408 male and 322 female PE students at the Cairo and Alexandria Colleges of the University of Helwan. Ss were also administered Cattell 16 PF and Bem's Sex Role Inventory. Compared to PE students in Europe, New Zealand and the US, Egyptian males (2.9-4.2-2.7) were significantly less mesomorphic, Egyptian females significantly more endormorphic and less mesomorphic. On the 16 PF, Ss scored low on Intelligence and Creativity factors compared to US norms, but high on Superego Strength (conscientious, moralistic personality). Female Ss were high in Tough Poise (alterness and problem solving ability). Compared to US PE students, fewer male Ss were classified as Feminine and fewer female Ss as Masculine on the BSROL.

577. ACKERSON, Virginia. An experimental film project depicting the dance within everyone. M. A. in Dance, 1980, 35 p. (T. Ray Faulkner)

578. ARTHUR, Michael J. An analysis of the somatype stability of boys aged nine through twelve years. M.S. in Physical Education, 1980, 51 p. (E. R. Reuter)

579. deGHETALDI, Laura R. The development and evolution of the Nike road running shoe. M. A. in Physical Education, 1980, 56 p. (C. W. Steinmetz)

580. DUNN, Deborah Ann. The relationship of health locus of control and health value to medical self-care knowledge and attitudes of undergraduate and graduate health education majors in Oregon. Ph.D. in Health Education, 1980, 126 p. (L. G. Davis)

Correlates of medical self-care knowledge and attitudes were investigated. 148 students in junior/senior and graduate level HE classes at 3 OR universities completed a background information sheet, Value Survey, Multidimensional Health Locus of Control Scales, Self-Care Attitude Scale and a medical self-care knowledge test. The data were analyzed with knowledge as the dependent variable and then with attitude as the dependent variable. Multiple regression analysis was used to examine the relationships between each dependent variable and 12 independent variables. For the 65-item knowledge test, $\bar{X}=35.81$ and SD=8.07, knowledge was sig correlated with attitude, academic standing, academic ability and chance health locus of control. Academic ability was the best predictor of knowledge. As a group, Ss had favorable attitudes toward self-care. Attitude was sig correlated with powerful others health locus of control, academic ability, knowledge and sex. Most of the variance of attitude was due to powerful others health locus of control. Limited predictions can be made for the self-care knowledge and attitudes of HE majors in OR due to the low magnitude of r and the small % of explained variance.

581. FRANZ, Constance L. Fast Eddie's Flaggin' Again: A choreographic thesis. M. S. in Dance, 1980, 114 p. (J. Descutner)

582. FRUECHTE, Ann L. Survey of Northwest High School and college volleyball officials relating to back-

ground, training, and evaluation. M. S. in Physical Education, 1980, 70 p. (E. R. Reuter)

583. KADATZ, Dennis M. An analysis of indoor physical education space at selected universities in Canada. Ph.D. in Physical Education, 1980, 101 p. (R. J. Smith)

The purpose of this study was to determine whether 32 degree-granting universities in Canada met the 1979 AAHPERD standard of 8.5 to 9.5 sq. ft of indoor activity space per student. Data were collected from floor plans and space inventories provided by each of the institutions, while enrollment figures were provided by Statistics Canada and PE administrators. Results revealed that 16 of 32 universities provided at least 8.5 sq. ft. of activity space per student (M = 8.1). Further results indicated that 20 of 32 institutions devoted at least 55% of the activity space to a large gymnasium type area, 8 of 32 institutions devoted at least 35% to low ceiling type space, 22 of 32 institutions provided at least 15% to swimming pool area, 8 of 32 institutions provided at least one squash/handball court for every 800 students, and 31 of 32 institutions provided ancillary space amounting to at least 40% of the activity space. The amount of activity, ancillary, and total space provided in sq. ft. per PE major ranged from 50.01 to 525.73, 48.82 to 464.58 and 98.83 to 990.31 respectively for the 32 universities.

584. KENNEDY, Michael J. Sport role socialization and attitudes towards physical activity of wheelchair athletes. M. S. in Physical Education, 1980, 106 p. (J. Santomier)

585. KOLB, Jon C. The effect of cold and exercise acclimatization on plasma catecholamines. M. S. in Physical Education, 1980, 40 p. (E. Evonuk)

586. MASON, Bruce R. A kinematic and kinetic analysis of selected parameters during the support phase of running. Ph.D. in Physical Education, 1980, 135 p. (B. T. Bates)

The study investigated selected kinematic parameters and ground reaction forces as a function of running speed, type of runner, and type of footfall. Data were collected using a Kistler force platform, 2 high speed super 8mm movie cameras, and a photoelectric timing system. Skilled distance runners (n=12) and skilled sprinters (n=12) each ran at 2 speeds based upon 75% world record pace for 100 and 10,000 m. Ss were assigned to footfall groups based upon center of pressure data obtained from the force platform. The M data curves associated with the footfall groupings revealed that each footfall classification was associated with a characteristic ground reaction force profile. Based upon discriminant analysis, the comparison between runner classification and running speed on the basis of ground reaction force profiles was not as distinctive as was the case with footfall classification. On examining the changes in footfall patterns at different speeds, the data tended to counter the often held concept that there is an orderly shift in type of footfall from heel-toe to toe with an increase in speed. Finally, an analysis was performed on the kinematic parameters associated with changes in the horizontal velocity component of the center of gravity of the runners.

587. MEEKER, Sarah. The effect of cold immersion and exercise on strength development in the plantar flexor muscles. M. S. in Physical Education, 1980, 52 p. (E. Wooten-Kolan)

588. MOORE, S. L. A study of perceived locus of control in college women athletes in team and individual sports. Ph.D. in Physical Education, 1980, 148 p. (J. Broekhoff)

Ss were 73 women athletes participating in team sports (field hockey, volleyball, basketball, and softball) and 83 women athletes participating in individual sports (gymnastics, swimming, track, tennis and golf) at Oregon State University. The Levenson Internal, Powerful Others, and Chance (IPC) Scale was administered to assess locus of control (LOC). A questionnaire surveyed attitudes toward coaches and competitive sport background. MANOVA revealed no sig diff in LOC between individual and team sport athletes. The hypothesis that participants in individual sports might perceive that their rewards and reinforcements were the direct result of their own behavior, effort and skill, whereas team sport participants might feel that those rewards were more outside their control, was not substantiated. Athletes as a group had an internal LOC. Athletes who remained members of a team scored higher on the Internal scale of the IPC than those who tried out but dropped the sport prior to the start of the competitive season ($p < .05$).

LOC appeared to have no sig relationship to athletes' evaluation of their coaches.

589. RECORDON, Susanne. Birth of a new art form: A study of the modern dance of Ruth St. Denis and Isadora Duncan as expressions of American culture in the years of 1900 to 1929. M. S. in Dance, 1980, 108 p. (J. Descutner)

590. SCHROEDER, Christine. The effect of cold water baths on posttreatment leg electromyogram and isometric strength. M. S. in Physical Education, 1981, 50 p. (E. Evonuk)

591. SINGER, Elizabeth G. City limits: A choreographic thesis. M. A. in Dance, 1980, 81 p. (J. Descutner)

592. STAPLETON, Kellie. Assessment of proprioceptive neuromuscular facilitation on strength of the dorsiflexors and plantar flexors of the ankle. M. S. in Physical Education, 1980, 26 p. (E. Wooten-Kolan)

593. STEINER, Jane A. A survey of parents of disabled children on their attitudes toward professional guidance. M. S. in Physical Education, 1980, 63 p. (K. D. Rankin)

594. STEWART, Joy. Knowledge of results and knowledge of performance in learning a complex motor skill. M.S. in Physical Education, 1980, 64 p. (J. D. Adler)

UNIVERSITY OF PITTSBURGH (K. Metz)
PITTSBURGH, PA

595. BISHOP, R. Motor development assessment of 6-year-old hearing and hearing impaired children. M. A. in Motor Development, 1980, 163 p. (J. E. Clark)
Comparisons were made between the performance of hearing and hearing impaired children (age 6 yrs) on the gross-motor composite of the Bruininks-Oseretsky test (BOT) and between their performance on the gross-motor composite of the BOT test and their performance on simple motor tasks as assessed by a test of fundamental motor skills. The results lend support to the following conclusions: as measured by the gross-motor composite of the BOT, hearing impaired children

(age 6) demonstrated 1 yr lag in motor development when compared with hearing children the same age; on the subtest categories of balance and speed,statistically sig diff ($p <$ .05) in performance between hearing and hearing impaired children were evident. The hearing impaired were lower in performance than the hearing individuals. Finally, while there was some evidence to suggest a relationship between the BOT and the test of Fundamental Motor Skills, further research will be necessary to determine the actual magnitude of the relationship.

596. IMWOLD, C. H. The relationship between teaching experience and performance diagnosis of a gymnastics skill. Ph.D. in Physical Education, 1980, 146 p. (S. J. Hoffman)

The relationships between teaching experience and selected factors involved in skill analysis,namely perceptual recognition and error evaluation, were investigated. 60 Ss were partitioned into 3 gps, specialists, teachers, and novices, on the basis of amount and type of gymnastics experience. Ss were tested on 2 analytic tasks. First they viewed super-8 color films depicting running front handsprings (lateral view) performed by private gymnastics school students and subsequently viewed static contour body drawings traced from those films which depicted the body in 2, 3, or 4 of the following positions: hurdle step, hand placement, flight and landing. 4 contour drawings were presented for each position, the contour drawings taken from the film plus 3 distractor items taken from other films. Ss were required to indicate which 1 of the 4 contour drawings depicted the performance presented earlier on film. The no. of body positions to be monitored varied from 2 in the 2-target condition to 4 in the 4-target condition. The second task required Ss to observe static visuals (35mm slides) of handsprings at various stages of performance and indicate the presence or absence of performance errors with "yes/no" responses. Additionally, if errors were thought to be present, Ss were to describe them. These "error messages" were tape recorded for later analysis with regard to error evaluation. The results indicated that the recognition accuracy scores for specialists were sig higher than scores for teachers or novices; however, the teachers accuracy scores were not sig better than the novices. Recognition accuracy scores for all groups diminished as the no. of body positions to be monitored increased. Analysis of the evaluation data indicated that the within-group variance for specialists was sig lower than that of novices, and analysis of the "error messages" provided some evidence that when Ss were required to go beyond designation of performances as being "correct" or "incorrect", specialists emerged as a distinct population.

597. KARIMI, J. Critical factors influencing the selection of preservice physical education teachers. Ph.D. in Physical Education, 1980, 115 p. (M. A. Sherman)
Multiple information retrieval strategies resulted in the identification of 75 personal characteristics considered in the selection of preservice PE teachers. 7 teacher educators grouped these characteristics into 7 broad categories. The category scheme was used to construct a ranking questionnaire for 100 PE admissions officers at randomly selected American universities. Analysis of 63 returns indicated that affective and interpersonal skills were most highly valued, followed closely by cognitive, psychomotor and teaching attributes. Clinical and educational experiences and demographic variables were ranked least important. Within categories, considerable importance was attached to creativity, enthusiasm, human relations skills, lifestyle, problem solving ability, and pre-college PE experiences. Recommendations were offered for clarifying, measuring and validating selection criteria in preservice teacher education.

598. KRISKA, A. Comparison of the myocardial metabolic cost between three exercise modes. M. A. in Exercise Physiology. 1980, 62 p. (R. J. Robertson)
It was questioned whether a constant myocardial O_2 demand could be assumed for equal levels of total body O_2 uptake between treadmill and arm crank and between treadmill and rope skipping exercise. 10 male Ss performed 3 min submax exercise tests on an arm crank ergometer and a simulated jump rope apparatus followed by 2 treadmill tests each equated to the submax VO_2 values for the arm crank and jump rope exercise. Heart rate (HR), systolic blood (SBP) pressure and total body VO_2 were measured during the 3rd min of each test. The rate pressure product (RPP) was used to estimate the myocardial O_2 consumption for each test. The HR, SBP, and the RPP responses were sig higher ($p < .05$) during the arm crank and rope jump exercise than during the treadmill exercise. These findings indicate that selected indices of myocardial O_2 demand would be higher for arm crank and rope jumping exercise than for jogging or treadmill

exercise when undertaken at equivalent levels of total body VO_2.

599. NIXON, P. A. *Comparison of the physiological responses to standard and altered versions of the Balke treadmill protocol*. M. A. in Exercise Physiology, 1980, 48 p. (R. J. Robertson)

8 male volunteers performed 4 altered versions of the Standard Balke treadmill protocol. The 4 protocols, A, B, C and D, consisted respectively of grade increments of 2%, 4%, 6% and 8% every 3 min at a constant walking speed of 3.4 mph. After the 24% grade was attained, the grade was incremented by 2% every 3 min until the S reached physical exhaustion. Max aerobic metabolic, cardiovascular, and respiratory responses were compared between the 4 protocols. Statistical analysis revealed no sig diff between M max response to the 4 protocols for HR, BP, VE, RQ, respiratory rate and stride frequency. However, sig lower VO_2 max ($p < .05$) was found for the least aggressive Protocol A (2% increment/stage) than for the most aggressive Protocol D (8% increment/stage). Similarly, a sig lower max ventilation was found for Protocol A than for each of Protocols B, C and D. It was concluded that the rate of increment in metabolic cost per stage of the treadmill protocol sig influenced the VO_2 max and ventilation. Based on these findings, it may be advisable to employ strict standardization of these procedures, especially when sequential testing is undertaken, to assess changes in metabolic and ventilatory responses to max exercise.

600. VIETRI, R. *An investigation to develop an alternative method to estimate physical working capacity*. M. A. in Exercise Physiology, 1980, 57 p. (K. F. Metz)

Correlation regression analysis was used to study the degree of relationship between selected health fitness field tests and physical working capacity as measured by VO_2 max from the scores on the more practical field tests. 25 males, age 10-15 yrs., were given a grip strength test, a 1-RM chinning test of strength and a "short" form of the Harvard Step Test, with a determination of % body fat according to the procedures reported by Parizkova (1961). VO_2 max was determined by the method reported by Taylor et al (1955). The test-retest reliabilities ranged from $r=.87$ to $r=.98$. % of body fat was the only health fitness test item sig correlated with VO_2 max ($p < .05$) and this relationship was only modest, r=.47. Since no strong correlations were obtained with any of the field test items, no regression equations were developed and it was concluded that estimation of VO_2 max from health fitness tests is tenuous.

601. WINTER, M. K. The effects of brand fading on risk exposure and smoking behavior. Ph.D. in Health Education, 1980, 107 p. (M. A. Edwards)
The effects of a brand-fade smoking procedure on exposure to harmful components of smoke, smoking rate and patterns of smoking were studied. CO in expired air and serum thiocyanate blood levels were used as exposure measures. The no. of cigarettes smoked and smoking topography were recorded to assess their possible influence on exposure to harmful substances. 44 Ss were randomly assigned to either a brand fade treatment group (Group 1) or a delayed treatment control group (Group 2). A pretreatment laboratory assessment of smoking topography and exposure was conducted on all Ss. On completion of this assessment, Group 1 began the brand fade treatment procedure which included weekly small group meetings for a period of 5 wks. During treatment Group 1 Ss systematically reduced their tar and nicotine levels by changing to designated cigarette brands. Group 2 Ss continued to smoke according to their normal patterns and were informed that treatment would begin following the 2nd assessment. Post-treatment laboratory assessments of topography and exposure were conducted for exp and control groups following the completion of brand fade treatment. The results indicated no substantial reduction CO exposure by changing to lower tar/nicotine/CO yield cigarettes. Uptake of CO was found to be sig less ($p < .05$) when participants smoked low tar/nicotine/CO yield cigarettes as compared to their usual cigarette, however, no diff were observed in alveolar CO levels. Serum thiocyanate levels showed no sig change in either group during the treatment period. Finally, sig changes ($p < .05$) in smoking topography were observed. Integrated volume of smoke and puff duration per sec were increased in the brand fade treatment group. In light of the observed changes in smoking behavior for the brand fade treatment group, with no reduction in exposure, a cessation procedure may be a better approach for the health risk of smoking.

UNIVERSITY OF SOUTHERN MISSISSIPPI (L. C. Burchell)
HATTIESBURG, MS

602. HUBBLE, S. M. Status of existing trails and resources management opinion on proposed trails system classifications in Mississippi. M. S. in Recreation, 1981, 141 p. (C. N. Wilkes)

REC professionals voiced concern for developing a state trails system. Managers of 47 REC areas provided information regarding existing and proposed trails and opinions toward the proposed Mississippi State Trails System Act. REC and research experts critiqued the questionnaire constructed for the study. Of those questions treated with X^2 at .05 sig the null hypothesis was rejected in all but one instance. Data revealed the "typical" trail was: primarily used for hiking; ready for public use, and 0-2 miles in length. The "trail," constructed on public property, had been in existence for 2-5 yrs and located with 1 hr of an urban area. The average trail had access points only at the trail head, where vehicle parking was available, and was inaccessible to handicapped. Written rules and regulations existed for trial use. Funds were allocated for trail development, and trails were predominantly of loop design. No trail use fees were charged, and use was not limited to one primary activity. Constructed buildings or maintained roads were visible from the trail. The majority of existing trails fulfilled most national criteria for accreditation in the National Trails System. Managment opinion should be utilized at all stages while developing the Mississippi Trails System.

UNIVERSITY OF TEXAS AT AUSTIN (W. Spirduso)
AUSTIN, TX

603. ARNOLD, David A., Jr. The effects of differential limb use on preferred and non-preferred limb differences in unilateral and bilateral fractionated reaction time. M. A. in Motor Control, 1980, 120 p. (A. M. Baylor)

UNIVERSITY OF WASHINGTON (N. Hutton)
SEATTLE, WA

604. HULL, D. R. Biomechanical analysis of the inward dive group. M. S. in Kinesiology, 1981, 210 p. (D. I. Miller)

A better understanding of how divers establish their vertical (y) and horizontal (x) take-off velocities (v), and initiate rotation in dives from the inward group was desired. To accomplish this, boardwork mechanics of the inward dive layout, inward 1-1/2 somersault pike and inward 2-1/2 somersault tuck were studied. 4 college level competitive divers were filmed. These films were digitized and resulting x, y coordinates were processed by computer to provide time patterns of body position, inertia force relative to the board, absolute springboard reaction force and angular momentum (H_g). Analysis considered 3 movement intervals (predepression crouch, board depression, lift) and means of end point values were reported. Results showed that impulse for depression of the board is generated during the predepression crouch and board depression intervals. The impulse for take-off v_x is promoted before the board is fully depressed and throughout the lift. Initiation of rotation is highly dependent on remote H_g of the legs while local H_g of the trunk and head play a secondary role.

UNIVERSITY OF WESTERN ONTARIO (J. P. Stothart)
LONDON, ONTARIO

605. ALASZKIEWICZ, Judy. Male female differences in anaerobic trainability. 1980, 111 p. (R. B. Eynon)

606. BANTING, Elaine. The effects of supplementary physical activity classes upon selected physical, psychological and academic parameters. 1979, 108 p. (G. A. Wearring)

607. BAYTOR, Donna. Children's enjoyment in competitive sports. 1978, 63 p. (A. V. Carron)

608. BONK, Jim. Anaerobic capacity and recovery repayment kinetics in males aged 10, 15 and 21 years. 1979, 149 p. (D. A. Cunningham)

609. BONNELL, Robert. A comparative analysis of the mechanics of the basketball jump shot. 1978, 99 p. (J. P. Stothart)

610. BROWN, Cheryl. An examination of the relationship between sport and Canadian Foreign Policy with reference to the People's Republic of China., 1979, 124 p. (D. M. Semotiuk)

611. BURKE, Garry. *An historical study of intercollegiate athletics at The University of Western Ontario 1908-1945*. 1979, 396 p. (L. D. Morrow)

612. CLEAVE, Shirley. *An analysis of the organization and administration of sport club programmes in Ontario universities with special reference to the University of Western Ontario*. 1978, 318 p. (E. F. Zeigler)

613. DWYER, James. *A comparative cinematographic analysis between rowing and simulated rowing in a rowing ergometer*. 1979, 79 p. (J. P. Stothart)

614. DYBA, Walter. *The nature of work and physiological stress in elite volleyball competition*. 1980, 92 p. (R. B. Eynon)

615. GOLDENBERG, Eva. *Attitudes of the elderly to physical fitness programs*. 1980, 64 p. (G. A. Wearring)

616. HAENNEL, Robert. *Response to training among clinically depressed psychiatric patients*. 1980, 191 p. (G. A. Wearring)

617. HARRIS, David. *Interpersonal relations and athletics performance*. 1979, 97 p. (A. V. Carron)

618. HARRISON, John. *Life changes as a precipitating factor in myocardial infarction*. 1980, 103 p. (G. A. Wearring)

619. HEALE, Joanne. *A comparison of fit and unfit children on selected physical, psychological, attitudinal and environmental characteristics*. 1979, 95 p. (G. A. Wearring)

620. HEBEL, Linda. *The level adherence of post infarct males to a cardiac exercise program and the health support rendered by the wife*. 1980, 149 p. (G. A. Wearring)

621. HUYBERTS, Frank. *An analysis of the management process as viewed by selected municipal recreation*

directors, recreation management course instructors, and executive directors of provincial sport governing bodies in Ontario. 1980, 111 p. (E. F. Zeigler)

622. JOHNSON, Rick. A study of the effects of a television audience on the performance of male professional golfers. 1978, 116 p. (P. Donnelly)

623. KOTYK, Peter. The incidence and degree of canting error in Alpine skiers. 1979, 122 p. (J. P. Stothart)

624. LADANI, Benjamin. An examination of British influence on the development of sport in Nigeria from 1961 to the present. 1978, 175 p. (D. M. Semotiuk)

625. LAMB, Doug. The effects of isokinetic training on vertical jump kinetics. 1979, 150 p. (J. P. Stothart)

626. LEWIS, Pam. Fitness and amateur sport branch policies as they pertain to women in sport in Canada from 1974-1979. 1980, 121 p. (D. M. Semotiuk)

627. MacDONALD, Lorraine. The relationship of body image, physical inactivity and selected personality traits to the dietary quality of adolescent girls. 1979, 94 p. (G. A. Wearring)

628. MATTINGLEY, Thomas. Body fat and lean body weight prediction equations for football players, wrestlers and swimmers. 1980, 147 p. (M. S. Yuhasz)

629. McDONALD, Scott. The heritability of relative body fat pattern. 1978, 94 p. (M. S. Yuhasz)

630. McDOUGALL, Alexander. The subculture of hang-gliders: Social organization of a high risk sport. 1979, 113 p. (P. Donnelly)

631. McLELLAN, Tom. The use of the anaerobic threshold as a basis for training. 1978, 115 p. (J. S. Skinner)

632. MONCKTON, Philip. *Physiological & anthropometric parameters in high school oarsmen*. 1979, 126 p. (R. B. Eynon)

633. NEUFELD, Marilyn. *Modelling and the acquisition and retention of a motor skill by the mentally retarded.* 1978, 56 p. (H. Staples)

634. OKORO, Busari. *A comparison study of the effects of four muscle resistance training methods on the development of quadriceps strength*. 1979, 129 p. (J. P. Stothart)

635. OLIVER, Patricia. *The effect of cardiovascular exercise on primary menstrual pain*. 1979, 84 p. (G. A. Wearring)

636. OSTROM, Rebecca. *Maintenance of aeorbic and anaerobic fitness following six weeks of interval training*. 1980, 139 p. (R. B. Eynon)

637. PARIS, Ronald. *An analysis of management competency as viewed by selected educational administrators and professors in Ontario physical education and athletics*. 1979, 146 p. (E. F. Zeigler)

638. PURDON, Jane. *Athletic participation and self-esteem.* 1978, 104 p. (A. V. Carron)

639. RIEZEBOS, Mary. *The relationship of selected physiological, anthropometric, motor fitness and skill variables to performance in women's basketball*. 1980, 115 p. (D. H. Paterson)

640. RUGINS, Ojars. *Response bias facilitation on choice reaction time*. 1980, 60 p. (E. E. Buckolz)

641. SIMPSON, Wayne. *The influences of the Montreal Curling Club on the development of curling in Canada, 1807-1857*. 1980, 220 p. (L. D. Morrow)

642. SKILLEN, Joanne. *The influence of time & exercise factors on the effectiveness of protective ankle taping methods*. 1979, 86 p. (J. P. Stothart)

643. STAPLETON, Jeff. Determination of rates of daily energy expenditure in 12 and 13 year old boys. 1979 194 p. (D. A. Cunningham)

644. STRIPE, Colin. A three dimensional kinematic analysis of front crawl swimming. 1980, 138 p. (J. Stothart)

645. SUMMERS, Sue. Psychological affects of an employee fitness program. 1979, 103 p. (M. S. Yuhasz)

646. SWAIN, Susan. An historical study of women's intercollegiate athletic conferences in Ontario and Quebec 1965-1971: Alternatives to women's intercollegiate athletic union standards and policies. 1978, 227 p. (R. K. Barney)

647. TRIPP, Ross. Defensive backfield footwork for executing a 180° turn. 1979, 58 p. (J. P. Stothart)

648. TSUKAMOTO, Sharon. The effects of EMG biofeedback-assisted relaxation as a self-control strategy for sport competition anxiety. 1979, 68 p. (B.B. Bennett)

649. VASILIADIS, Ruth. An investigation of children's estimates of body size, estimates of performance, and their correlation to selected motor skills. 1979, 195 p. (D. C. Milne)

UNIVERSITY OF WISCONSIN-LA CROSSE (N. K. Butts)
LA CROSSE, WI

650. ABITZ, Susan C. Development of a short form motor ability survey. M. S. in Physical Education for the Handicapped, 1980, 65 p. (L. Goodwin)

651. ARNOLD, R. W., Jr. The effect of using mirrors for body awareness activities on visual-motor integration of learning-disabled children. M. S. in Physical Education for the Handicapped, 1980, 85 p. (J. Greenlee)

Children (n=12) classified as learning-disabled were provided an 8-wk body awareness program. 6 of the children used full-length mirrors as concurrent visual feedback devices during the activity sessions and 6 children participated in the body awareness program without mirrors. Diff between groups and from pretest to posttest were investigated as well as interaction between the 2 groups. The Southern California Perceptual-Motor Tests were administered prior to and following the program. Areas analyzed within the tests were: Imitation of Postures; Crossing the Midline; Bilateral-Motor Coordination; Right-Left Discrimination; Standing Balance-Eyes Open; and Standing Balance-Eyes Closed. A 2-way ANOVA with repeated measures revealed sig diff ($p < .05$) between the 2 groups for Standing Balance-Eyes Opened and Standing Balance-Eyes Closed, with the mirror group performing better than the no-mirror group on each test. The groups also improved from pretrest to posttest on Imitation of Posture and Bilateral-Motor Coordination. There were no sig ($p > .05$) interactions. It was concluded that the use of mirrors for body awareness activities, under selected situations, can be of benefit in the visual-motor intergration of learning-disabled children.

652. BERG, Elizabeth E. The effects of cross country ski program on physical fitness and social competence of trainable mentally retarded children. M. S. in Physical Education for the Handicapped, 1980, 52 p. (L. A. Goodwin)

653. BYRNE, Andrea. The effects of a patient education program on the level of self concept of post myocardial infarction patients. M. S. in Adult Fitness and Cardiac Rehabilitation, 1980. 87 p. (G. Porter)

A Phase II, post discharge patient education program was developed to evaluate the effects of patient education on self concept levels of post myocardial infarction (PMI) patients. 20 Ss were randomly assigned to 1 of 2 groups. The exp. group (N=10) participated in the educational program,which consisted of 3 follow-up teaching sessions at 2, 4 and 8 wks following hospital discharge. The remaining 10 Ss comprised the control group, and did not participate in the teaching sessions. Self concept levels were measured by the Tennessee Self Concept Scale (TSCS) which was administered at step 6 of the exercise therapy program used at La Crosse Lutheran Hospital and again at 8 wks following hospital discharge. ANCOVA of the Total P scores from the TSCS, indicating overall level of self-concept, indicated a sig diff ($p < .025$) between the mean self concept scores of the 2 groups. Further ANCOVA of the data indicated that of the 5 sub-categories that make-up the Total P Scores, there was sig diff in the areas of physical self ($p < .05$), personal self ($p < .025$), and social self ($p < .025$) opinion levels. In each case, higher scores for each of the sub-categories and total P. scores were noted in the exp. group. The statistical findings of this study documented the effectiveness of the Phase II, post-discharge patient education program in increasing levels of self concept of the PMI patient.

654. CARLE, Deiedre. The effects of superhydration on selected physiological variables on ratings of perceived exertion in trained female distance runners. M. S. in Adult Fitness/Cardiac Rehabiltation, 1980, 253 p. (N. K. Butts)

17 trained female distance runners, MVO_2 max = (55.4 ml/kg$\cdot$min^{-1}), ages 19 to 28 yrs, performed 3 10-mile treadmill runs (70% VO_2 max) at 0%, 3% and 5% superhydration. During 2 hrs prior to the run, each S ingested a vol. of water proportionate to .5%, 3% and 5% of her baseline wt. Repeated measures ANOVA indicated a sig diff ($p < .05$) for pre-post wt changes, pre-run urine vol, and amount of pre-run water retention. Rectal temperature (Tre) at increasing hydration level was sig lower ($p < .05$). A sig diff ($p < .05$) was found for sweat loss between the 0% to 5% levels only. HR, ventilation equivalent, RER, RPE, and hematocrit were not sig diff ($p > .05$) for any hydration level. Final fluid balance, urine pH and urine specific gravity were sig diff ($p < .05$) for the 0% to 3% and 0% to 5% treatments, but not for the 3% to 5% level ($p > .05$), indicating a urine dilution. VO_2 (l$\cdot$min^{-1}), VO_2 (ml/Kg$\cdot$min^{-1}) and ventilation vol were sig diff ($p < .05$) for all dehydration levels over time. It was concluded that the 3% and 5% level is more effective than the 3% level with respect to water retention and Tre, but less effective in terms of metabolic cost.

655. CARTER, James L. The effects of a four week unit of cooperative activities on attitude towards competition and cooperation. M. S. in Elementary Physical Education, 1980, 48 p. (W. VanAtta)

A 4 week unit of cooperative activities was administered to 22 Ss enrolled in a E PE program course at the University of Wisconsin-La Crosse. Assessment of the Ss' attitude of competition-cooperation was found using Martin's Competitive

Cooperative Assessment Scale (1976). Based on the results obtained and recognizing the limitations within the study, it appears that the unit had no sig ($p > .05$) effect on the competitive-cooperative attitudes measured by the Competitive Cooperative Assessment Scale.

656. CHAUDOIR, Thomas R. A study of the attitudes of incoming freshmen at the University of Wisconsin-La Crosse toward the utilization of services and facilities offered by the University of Wisconsin-LaCrosse, Cartwright Center, student union. M. S. in Recreation and Parks Administration, 1980, 60 p. (R. Steuck)

657. CHRISTNOVICH, Nancy J. The effects of a nutritional behavior modification and exercise program on overweight adolescents. M. S. in Physical Education for the Handicapped, 1980, 61 p. (L. Goodwin)

658. CYCHOSZ, Charles M. The vocational satisfaction pattern of baccalaureate community health education alumni of UW-La Crosse. M. S. in Health Education, 1980, 107 p. (G. P. Gilmore)

This research assessed the job satisfaction available in the Community Health Education (CHE) employment of the UW-La Crosse alumni. The Minnesota Job Description Questionnaire was chosen to assess 21 specific reinforcing characteristics. A set of general questions was also included. 22 supervisors and the 33 alumni returned questionnaires. The 21 values for the alumni pattern were used to determine present and absent reinforcers. These patterns were then compared with one another using an ANOVA. Similar comparisons were done between CHE and pre-existing patterns for Social Casework, High School Teaching and Nursing. 20 of the 21 reinforcers were found to be present in CHE employment as indicated by positive scale values. The only reinforcing characteristic which was absent was compensation. The ANOVA showed no sig diff ($p > .05$) between the 2 patterns for CHE and Social Caseworker, High School Teacher, and Nurse. Specific reinforcers did differ however. Job security was lower in CHE while the opportunity to try one's own ideas was generally higher in CHE. Overall, CHE was most similar to High School Teachers and Social Casework and less similar to Nursing. CHE supervisors and CHE workers differed most in reinforcers which involved the supervisors.

659. EAGAN-BENGSTON, Elizabeth. Changes in the R wave amplitude with exercise and propranolol therapy. M. S. in Cardiac Rehabilitation and Adult Fitness, 1980, 88 p. (G. H. Porter)

The purpose of the study was to compare changes in the amplitude of the R wave at rest and symptom-limited max (SLM) exercise with and without propranolol in 31 patients who had a previously documented myocardial infarction and angina pectoris with exertion. The R wave amplitude sig increased ($p < .05$) from rest to SLM exercise during control conditions. The R wave amplitude from rest to SLM exercise during propranolol therapy at rest and SLM exercise were not found to be statistically sig ($p > .05$).

660. FISCUS, David R. Parental attitudes toward junior high athletics in the Oregon school district. M. S. in Physical Education, 1980, 31 p. (W. Chen)

661. GILBERTSON, Larry M. The effect of an intensive code enforcement component in a rodent control program. M. S. in Health Education, 1980, 31 p. (W. Chen)

It was the intent of this study to examine 2 rodent control programs: a program utilizing community education, rodent baiting, and intensive code enforcement; and a program utilizing community education, rodent baiting, and limited code enforcement. Comprehensive surveys were conducted in both program areas to determine the effectiveness of each program. A non-paired t-test was used to compare the diff of changes in exposed garbage, unapproved refuse storage, and rat signs between the intensive code enforcement program and the limited code enforcement program. A paired t-test was applied to test the intensive code enforcement program after the implementation of the study enforcement. It was concluded from this study that the intensive code enforcement program was more effective ($p < .05$) in all variables (exposed garbage, unapproved refuse storage, active rat signs) than was the limited code enforcement program. In addition, the results also indicated a sig ($p < .05$) improvement in the intensive code enforcement program after the enforcement was applied.

662. HUNT, Lori E. The effects of a modified Lamaze Natural Childbirth approach plus follow-up on primary

dysmenorrhea in college females. M. S. in Community Health Education, 1980, 90 p. (G. Gilmore)
The purpose was to evaluate the efficacy of a modified natural childbirth approach with and without follow-up in the alleviation of menstrual discomfort in college females ($n=34$). A Menstrual Discomfort Questionnaire was developed by the researchers to obtain demographic data and to determine the location/intensity of menstrual discomfort. The questionnaire was validated by a group of 5 jurors, and reliability was determined by Hoyt's Analysis of Variance. Anxiety levels were measured through the use of the State-Trait Anxiety Inventory. Statistical analysis of data through the use of the Mann Whitney U-test revealed that change scores in menstrual discomfort between each treatment group and the control group yielded a sig ($p < .05$) decrease. The remaining hypotheses concerning state and trait anxiety change scores in 2 group comparisons among treatment Group I, treatment Group II, control Group III, and menstrual discomfort reduction between the 2 treatment groups, were not sig ($p > .05$).

663. HODGSON, Judith S. The attitudes of nursing home staff toward the sexuality of the aged. M. S. in Health Education, 1980, 80 p. (K. C. Becker)
The primary objective of this study was to determine the attitudes of nursing home staff toward the sexuality of the aged and to compare the staff's attitudes toward the sexuality of the aged based on the respondents' occupational group, age category and gender. The Ss of this study were 247 nursing home staff, employed in 7 licensed skilled care nursing facilities within a 4 county area. Specifically, these included 12 Administrators, 78 Registered and Licensed Practical Nurses and 157 Nursing Assistants. An inventory constructed by the researcher and validated by a panel of experts was administered to the nursing staff at their place of employment. Results of the X^2 analyses indicated that Nurses were more positive ($p < .05$) toward the sexuality of the aged than the Nursing Assistants. Middle age staff were more positive ($p < .05$) toward the sexuality of the aged than older staff. The nursing home staff in general did not express a positive attitude toward certain aspects of sexuality and the aged. This included agreement that homosexual behavior between elderly persons should be prevented and that men retain their sexual interest to an older age than do women. Nursing home staff did indicate a need for inservice education in the area of human sexuality.

664. JEFFERSON, James B. Changing styles in the discus throw between 1896 and the present. M. S. in Physical Education, 1980, 64 p. (N. K. Butts)

665. JENSEN, Randall L. The influence of combining arm and leg cycling on maximum oxygen uptake of intercollegiate women swimmers. M. S. in Adult Fitness and Cardiac Rehabilitation, 1980, 66 p. (N.K. Butts)

Maximal cardiorespiratory responses of 17 female intercollegiate swimmers (M=19.88 yrs) were compared during the following continuous work protocols on Monark bicycle ergometers: arm cycling (AC); leg cycling (LC); 20% max arm cycling added to max leg cycling (LA 20%); 40% of max arm cycling added to max leg cycling (LA 40%). Although the ANOVA and post hoc Newman Keul's indicated the AC test resulted in sig ($p < .01$) lower max HR than any other protocol, there were no sig ($p > .05$) diff in max HR between the remaining tests. The AC test also produced sig ($p < .01$) lower VO_2 max and V_E max values than any other protocol. There was a sig diff ($p < .05$) in VO_2 max, but none ($p > .05$) in V_E max between LC and LA 20%. LA 40% was sig higher ($p < .01$) in VO_2 max and V_E max ($p < .05$) than LC, but no diff ($p > .05$) was found when comparing LA 20% to LA 40%. The V_E/VO_2 ratio was sig ($p < .01$) higher during the AC than any other test, with no sig ($p > .05$) diff found between LC, LA 20%, and LA 40%. The RER was sig diff ($p < .01$) between all tests, with AC the lowest and LA 40% the highest. It was concluded that female intercollegiate swimmers achieved the highest VO_2 max when 40% of max arm cranking was added to pre-existing max leg cycling.

666. JINSKE, William J. A survey of attitudes of Wisconsin municipal recreation directors toward providing equal opportunity to females in municipal recreation. M. S. in Parks and Recreation Administration, 1980, 51 p. (E. Hartman)

A 20 item questionnaire, identifying municipal REC directors' attitudes toward providing equal opportunity to females in municipal REC, was sent to 10 directors from small cities and 10 directors from large cities. The results of the Mann Whitney U test indicated there were no sig diff in attitudes of municipal directors regardless of city size toward providing equal opportunity to females in municipal REC.

667. KIEHN, William. A comparison of arch heights between shin splint and non-shin splint athletes. M.S. in Physical Education, 1980, 23 p. (W. Kaufman)

668. KINZIGER, Michael L. The relationship of selected fifth and sixth grade children's scores on the AAHPERD Youth Fitness Test to their competitive and/or cooperative attitudes. M. S. in Park and Recreation Administration, 1980, 66 p. (R. Steuck)

85 5th and 6th grade students from Emerson ELE in La Crosse, WI. were given The Children's Competitive and Cooperative Attitude Scale (CCCAS) and the AAHPERD Youth Fitness Test Statistical analyses revealed only scores on the long jump and 600 yd run/walk test were sig diff ($p < .05$) between competitive and/or cooperative type.

669. KOEHNKE, Dennis L. A survey of therapeutic recreators employed in special population facilities toward the need for knowledge and training in human sexuality. M. S. in Recreation, 1980, 102 p. (T. Gushiken)

This study compared attitudes of therapeutic recreators toward their need for knowledge and training in human sexuality. Individuals currently employed in University of Wisconsin-La Crosse, Department of Recreation and Parks-approved fieldwork and clinical experience sites were mailed an anonymous questionnaire consisting of 3 demographic questions and 12 attitudinal statements. A Likert type scale was used for the attitudinal statements. A total of 72 of the 79 surveys were returned, resulting in a 91.14% total return. A total of 88.89% of Ss responding indicated human sexuality should be included in the curriculum of therapeutic REC students. When compared by gender and job title, the study indicated Ss held similar attitudes. Because Ss were allowed to identify more than one type of population,comparisons by type of population served were difficult to accurately and objectively examine.

670. KOLHONEN, Marsha J. A comparative cinematographical analysis of a cross-country skier's arm motion on snow, on a treadmill equipped with an arm-pulley device and on the Nordic Track. M. S. in Adult Fitness-Cardiac Rehabilitation, 1980, 65 p. (P. K. Wilson)

6 exp Telemark Academy x-country skiers (15 to 21 yr) were filmed while performing on snow, on the Nordic Track and on

a treadmill equipped with an arm-pulley device. The film was projected onto an Editor-Viewer Console and was analyzed with a Lafayette Motion Analyzer. The angular displacements and velocities at the elbow and shoulder joints from the point in time at which each joint began its backward movement to the point in time at which each joint ended its backward movement were determined for each S under each condition. A repeated measures ANOVA test revealed no sig diff ($p > .05$) for both angular displacement and velocity at the shoulder joint and for angular velocity at the elbow joint among the 3 conditions. A sig diff was determined, however, for angular displacement at the elbow joint among the 3 conditions ($p < .05$). A Bonferroni Multiple Comparison Procedure revealed a sig diff ($p < .05$) for angular displacement at the elbow joint between modified treadmill and snow skiing conditions. It would, therefore, appear that the modified treadmill did not approximate the arm motion found during x-country skiing on snow, while the Nordic Track did. Both the hip pad and leg motion during the kick phase on the Nordic Track may be responsible for the results, since no sig diff was determined between modified treadmill and Nordic Track conditions ($p > .05$).

671. LANG, Darrel. *Stress management and anxiety reduction through EMG biofeedback/relaxation training upon junior high students*. M. S. in School Health Education, 1980, 60 p. (W. Chen)

The purpose of this study was to determine the effectiveness of EMG biofeedback/relaxation training on the stress management and anxiety levels of JHS S ($n=18$). *The Stress Management Inventory* was developed by the researcher to determine stress management in 8th grade students. The inventory was validated by a group of 6 jurors, and reliability was determined by Hoyt's Analysis of Variance. Anxiety levels were determined using the *State-Trait Anxiety Inventory*. To determine sig of stress management and anxiety change, the Mann-Whitney U-test was utilized. Diff in muscle tension were tested for sig ($p < .05$) with a t-test. Statistical analysis of data revealed no sig diff between groups.

672. LEE, David J.C. *Densitometric analysis of the body composition of adult males who are sedentary, active, or clinically diagnosed cardiacs, aged 35-72 years.* M. S. in Physical Education, 1980, 137 p. (R. Moss)

The purpose of this investigation was to define the relationships between age and several body composition parameters among sedentary (S), active (A) and active cardiac (AC) males aged 35-72 yrs. The body density (LBW) of 68 randomly selected Ss was assessed densitometrically. Mean BD for the S, A and AC males was: 1.0424 gm/cc (± .0143); 1.0499 gm/cc (±.0102); 1.0386 gm/cc (±.01499), respectively. Mean LBW for the S, A and AC males was: 59.46 kg (±6.69); 62.54 kg (±5.82) and 58.53 kg (±5.8), respectively. The ANOVA indicated a sig diff ($p < 0.05$) between PBF in the A and AC groups. No sig relationship ($p > 0.05$) was exhibited between age and BD, PBF or LBW among the A, S or AC groups or total combined group.

673. McWILLIAMS, Catherine M. A comparison of the level of concentration and performance of male and female cross-country runners. M. S. in Physical Education, 1980, 38 p. (P. Esten)
45 male and 61 female UWL cross-country members were given a level of concentration grid test (LCGT) 3 times during the course of the 1979 cross-country season: prior to a practice session, at an intrasquad meet, and at a larger meet within the 1979 cross-country season. Statistical analysis revealed there were no sig diff ($p > .05$) between conditions or sex in scores on the LCGT and cross-country performances.

674. MIXDORF, Cynthia D. The contributions of the Wisconsin Special Olympics Program in the development of physical fitness and sport skill competencies for the mentally retarded population. M. S. in Physical Education for the Handicapped, 1980, 120 p. (L. A. Goodwin)

675. MOTTO, Rosemary E. Comparison of the cardiovascular hemodynamic adaptions of angina pectoris to "second wind". M. S. in Adult Fitness-Cardiac Rehabilitation 1980, 81 p. (G. H. Porter)
Heart rate (HR), systolic BP (SBP), diastolic BP (DBP), rate-pressure product (RPP), the mean max MET level and the mean max painfree MET capacity were studied in 38 patients with exertional angina pectoris (AP) due to coronary occlusive disease during rest and during 2 max graded exercise tests, separated by a 10 min walk at a workload of 1.5 mph with a 0% grade. The data from each S were analyzed by student's t-test for paired means. Mean maximal MET level increased from 3.64 on 1st effort to 4.38 on 2nd effort. Mean pain-free MET capacity increased from 2.97 to 3.85 on second effort.

Max HR increased from 131 bpm, max SBP decreased from 166 mmHG to 163 mmHG, max RPP increased from 220 to 228 and max DBP decreased from 84.4 to 82.1. At the MET level provoking AP on 1st effort, HR on 2nd effort was unchanged, RPP was decreased from 227 to 220, SBP was decreased from 168.6 to 163 and the DBP was decreased from 84.6 to 81.9. The observed increase in musculoskeletal performance and cardiac work capacities may be explained by enhanced arteriolar dilation or by augmentation of the peripheral circulation as seen by dilation of the conductance vessels.

676. NALLETAMBY, Elina C. A proposed curriculum guide in physical education for the handicapped in Kenya. M. S. in Physical Education for the Handicapped, 1980, 104 p. (L. Goodwin)

This curriculum guide was developed for the Kenyan handicapped population: Asthmatic, Blind and Visually Impaired, Convulsive and Epileptic, Deaf and Hard of Hearing, Orthopedically Impaired and Postural Deviations. The guide was developed for us in the grade school, grades 1 through 7. At the time of this study, there was no formal curriculum for the grade school handicapped population. The document was evaluated and rated 4 on a 5-point scale for its authenticity by a panel of experts in the field of adaptive/special education.

677. NELSON, Janelle L. The effect of ball color and background on the striking performance of fourth grade boys. M. S. in Physical Education, 1980, 58 p. (J. Greenlee)

The effect of ball color and background on the striking performance of 26 males between the ages of 9.5 and 11.5 was determined. Each S hit 40 balls, 10 of each color (red, blue, yellow and white) against either a plain or complex background. Ss were instructed to strike at each pitch thrown by a human pitcher at an average velocity of 20.5 ft/sec. Plastic softballs and 30" plastic bats were used for the striking activity. A 2-way ANOVA with repeated measures revealed no sig effect for ball color background or the interaction of the factors.

678. NOVAK, Michael F. The effect of massed versus distributed practice on free throw shooting accuracy. M. S. in Physical Education, 1980, 56 p. (B. McDonald)

679. PENNER, Barbara J. The safety of home bicycle ergometer exercise as indicated by transtelephone electrocardiographic responses soon after open-heart surgery. M. S. in Adult Fitness/Cardiac Rehabilitation, 1980, 68 p. (G. Porter)

To assess the safety of home exercise soon after open-heart surgery, the Ss, who were 19 patients (mean age 55.7), underwent home exercise 1-1/2 to 9-1/2 wks postsurgery. Individualized exercise prescription HR and intensities were determined from a prehospital discharge submax exercise evaluation. Ss performed exercise sessions daily for 8 wks. During the first 2 wk interval, Ss used HR monitors to transmit ECG via telephone on 5 separate days. To reevaluate the exercise prescription at 2 and 4 wks, Ss subjectively reproduced the HR and the intensity of the previous exercise prescription followed by a submax exercise evaluation. At 8 wks Ss performed a symptom-limited max exercise evaluation. For the first 2 wk interval, the results indicated: there was no sig change in the incidence of arrhythmias in patients at rest and during home exercise; the results of the predischarge exercise evaluation were consistent with the findings of the transtelephone ECG HR and rhythm checks; HR responses were within the limits of the exercise prescription given to the patients; and, the Ss, when given an exercise prescription in conjunction with the teaching of self-monitoring techniques and appropriate intensity adjustments, were able to appropriately monitor their own home exercise prescription. These findings reflect that structured and individualized home exercise beginning as soon as 10 days post open-heart surgery appears to be safe during the critical first 2 wk. The safety may be augmented by transtelephone ECG monitoring.

680. PUZA, Roger F. The effectiveness of an emotional health unit on the self-esteem of seventh grade students. M. S. in Health Education, 1980, 79 p. (R. L. Papenfuss)

An emotional health unit was administered to 95 7th grade students at Longfellow JHS, La Crosse, WI. Another 92 7th grade students were identified as the control group at that same school. The exp separate-sample pretrest-posttest control group design, referred to as quasi-exp design number 13a, as explained by Campbell and Stanley (1966), was used. The Piers-Harris Children's Self-Concept Scale was selected to obtain measurements from the 187 Ss. The data collected from the Ss after a 13-day emotional health unit were analyzed using a 2-way ANOVA unequal cell frequencies model.

Statistical analysis of the data showed that the null hypothesis could not be rejected. The researcher concluded that the treatment is not effective in improving the self-concept of 7th grade students.

681. REED, Roxanne M. Anthropometric determination of body density in prepubescent males, aged 7-11. M.S. in Cardiac Rehabilitation/Adult Fitness, 1980, 44 p. (R. Moss)

The purpose of this investigation was to develop multiple regression equations to predict body density in prepubescent males using the Harpenden, Lange, and Fat-O-Meter skinfold calipers. The Ss were 59 males, aged 7-11 years ($\bar{X} = 9.3 \pm 1.2$), body wt of 34.5 kg (±8.4), ht 139.9 cm (±10.5), and body density of 1.0506 gm/cc (±.0128). Variables assessed included 12 skinfold sites, 8 body circumferences, 7 body diameters, residual volume (via closed circuit O_2 dilution) and the Jensen modification of hydrostatic weighing. Independent variables for each caliper were anterior thigh, triceps and abdominal skinfolds (Harpenden); anterior thigh, biceps and abdominal skinfolds (Lange); and anterior thigh, biceps, calf and abdominal skinfolds (Fat-O-Meter) with multiple R's of .93, .93 and .94, respectively ($p < .01$). Skinfold measures between calipers showed high intercorrelations ($r = .98$). Repeated measures ANOVA showed no diff in the calculated densities between calipers or hydrostatic weighing. The following conclusions were drawn: use of any of the 3 calipers to predict density from their specific equation will result in a favorable estimate of density, as measured by hydrostatic weighing, in prepubescent males; the anterior thigh was the best predictor of body density in this age group; and skinfold measures between calipers showed high intercorrelations ($r = .98$).

682. RUHLAND, Brad J. A comparison of the flexibility of non-athletes, gymnastic specialists and All-Around male gymnasts. M. S. in Physical Education, 1980, 57 p. (N. K. Butts)

The intent of this study was to compare the flexibility of a group of non-athletes, gymnastic specialists and All-Around male gymnasts at the SHS level. The non-athletes came from Waukesha South SHS. The gymnasts came from 4 teams, Brookfield East SHS, Brookfield Central SHS, Waukesha North SHS, and Waukesha South SHS. The Ss were tested for flexibility of the elbow, shoulder, hip (flexion), trunk, back, total trunk, and hip (abduction). A one way ANOVA and a post hoc Scheffé were used for data analysis. It was found that there was no sig diff ($p > .05$) among the 3 groups on elbow, shoulder and back flexibility. There were sig diff ($p < .05$) among the groups for hip flexion, trunk, total trunk and hip (abduction).

683. RUVOLO, Jane F. *The effect of arm conditioning versus leg conditioning on maximal oxygen uptake in females*. M. S. in Adult Fitness/Cardiac Rehabilitation, 1980, 57 p. (G. H. Porter)

College females (n=24) were randomly assigned to either an arm conditioning (AC) or leg conditioning (LC) group and participated in a circuit, interval conditioning program 3 days/wk for 8 wks. Both a volitional max arm cycling test (ACT) and leg cycling test (LCT) were performed by each S before and after the conditioning period. The VO_2 max ($L \cdot min^{-1}$) on the ACT was 73% of the VO_2 max on the LCT for both groups. The AC group had an increase of 38% ($p < .01$) in VO_2 max on the ACT and an increase of 17% ($p < 0.05$) on the LCT. The LC group had an increase of 20% ($p < 0.05$) in VO_2 max on the ACT and an increase of 34% ($p < 0.01$) on the LCT. Post-conditioning the VO_2 max of the AC group on the ACT was higher ($p < 0.05$) than that of the LC group. The VO_2 max of the LC group on the LCT was higher ($p < 0.05$) than that of the AC group. These results support the hypothesis that training improvements have an important relationship to task specificity, but also indicate that cross transfer effects may occur.

684. SISNEROS, Dorothy M. *The effects of pain on the motor performance of males and females*. M. S. in Adult Fitness-Cardiac Rehabilitation, 1980, 80 p. (J. Greenlee)

The purpose of this study was to determine the effect of pain and the motor performance of males and females immediately following and 5 min subsequent to the administration of ischemic pain. College undergraduate males (N=20) and females (N=20) between 17 and 25 yrs were tested on a pursuit rotor task to measure motor performance, Ss were given 10 orientation task trials, 10 practice task trials, 5 pre-pain task trials, and 5 pain task trials. The Submax Effort Tourniquet Technique was utilized to induce ischemic pain prior to the performance of the 5 pain task trials. Ss were randomly assigned by sex into 2 groups: immediate pain condition and delayed pain condition. Subjective pain ratings and descriptions were obtained upon completion of the final pain task trial. Total time on target was collected for the 5 pre-pain task trials and the 5 pain task trials for each S. Data were analyzed by a 3-way ANOVA (2 X 2 X 2) with repeated measures. Results indicated a diff in the motor performance of males and females, with males performing better in all conditions ($p < .05$). An increase in motor performance under the condition of pain was sig ($p < .05$). Motor performance was not sig diff when performed immediately following or 5 min following the administration of pain ($p > .05$). The interaction effects were not sig ($p > .05$). Chi square analysis was used to evaluate the subjective ratings and descriptions. The results revealed a subjective rating of slightly to moderately distressing and a pain description of dull, deep, long, spread out and constant, supporting the classification of ischemic pain ($p < .05$).

685. TOMSCYCK, Mary Ann. Motivation analysis of adult males based on level of physical activity and athlete status. M. S. in Physical Education, 1980, 70 p. (P. K. Wilson)

The Leisure Time Physical Activity Scale and the Motivation Analysis Test (MAT) were administered to 37 adult males. Ss were placed in 2 of 4 groups: low to moderate leisure time physical activity (n=15); high leisure time physical activity (n=22); former high school athletes (n=29); and, non-athletes (n=8). Results of the MAT were analyzed by discriminant analysis and a 2 X 2 ANOVA. The low to moderate activity group had greater Conflict scores ($p < .05$) on the home-parental sentiment than the high activity group. Comparisons between the athlete status groups revealed former athletes were higher on self-sentiment (Unintegrated and Conflict) and non-athletes higher on fear (Integrated) and general information-intelligence ($p < .05$). The ANOVA found one between-group diff (assertiveness - Total Motivation) but a Scheffé post-hoc test failed to support the diff. It was concluded that sig diff in scores on the MAT do exist between adult males who are compared on the basis of leisure time physical activity and athlete status.

686. WILZBACHER, John W. An investigation into the desirability of a camper reservation system in Minnesota State Parks. M. S. in Recreation, 1980, 81 p. (W. Otto)

During the summer of 1979, campers at 4 MI State Parks were surveyed to determine user preference for either the present exclusive first-come, first-served policy or some form of reservation system. On 4 typical non-holiday weekends, registered campers (n=400) were individually contacted and requested to complete questionnaires. 42% preferred the establishment of some form of reservation system. The respondents' preferences were compared to other data obtained on the questionnaire in an attempt to determine dependence on specific camper characteristics. Chi-square indicated a sig ($p < .05$) relationship of reservation preference on the availability and cost of gasoline. Also sig was the preference for reservations by weekend campers versus vacationers.

687. ZAUNER, Gary R. The development of a multi-media instructional package for teaching the kicking game in football. M. S. in Physical Education, 1980, 69 p. (R. L. Snowberg)

688. ZEIMETZ, Gregory A. Support versus non-support treadmill walking. M. S. in Physical Education, 1979, 75 p. (N. K. Butts)

The effects of support versus non-support treadmill walking were studied in a group of 15 male volunteers. The Ss were administered 7 submax treadmill tests STXTs. The STXTs were conducted in order to determine energy expenditure (EP) differences between hand supported (HS) and non-hand supported (NHS) treadmill walking. The Sheffield and Reeves (Bruce Modified) protocol was used (Sheffield & Roitman, 1976). STXT termination was 85% predicted max HR. The STXTs were: Test I, II NHS; Test III HS: palms resting on support rail; Test IV HS calibrated resistance (CR) 5 lbs.; Test V HS CR 10 lbs.; Test VI HS CR 15 lbs.; Test VII HS. Data were recorded at end of 3 min stages and during last min of the STXT. Sig ($p < .05$) decreases in VO_2 occurred comparing NHS and HS STXTs in Stages 1 through 5. Mean decreases in Stage 1 (.8 METS) through Stage 5 (3.4 METS) demonstrated the change in EP. STXT mean max treadmill time (MIT) increased ($p < .05$) between NHS STXTs (14 min) and Test V (16.6 min), Test VI (18 min, and Test VII (16.2 min). Decreases in EP levels and increases in MIT demonstrate a very crucial aspect that warrants attention in the use, application and predictive value of HS STXTs.

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MADISON, WI

689. BEZUCHA, Gary. Hemodynamic comparison of static and dynamic exercise. M. S. in Physical Education, 1979. (F. J. Nagle)

Hemodynamic studies of blood pressure response to static exercise have shown variable contributions of cardiac output (Q) and peripheral resistance (PR). We measured Q, brachian artery pressure (BP) and heart rate (HR) in 9 normal, male Ss during static handrip (HG), leg extension (LE), both at 30% of maximal voluntary contraction (MVC), dynamic arm cranking (AC) and dynamic leg cycling (LC). During both static HG and LE there was a sig pressor response with a minimal rise in Q and sizable but non-sig rise in PR. During LE there was a sig tachycardia, compared to HG (where HR was unchanged from rest). During AC and LC there were sig increases in BP, HR and Q with decreased PR. Increased PR with a minimal rise in Q and a pressor response equivalent to that seen during dynamic exercise indicate a greater contribution of PR during static exercise than has been previously reported. The difference in the respective contributions of Q and PR to the static exercise pressor response during HG and LE suggests a relationship between HR response and the muscle mass involved in exercise. This is evident in our data. Both HG and LE were contractions at 30% MVC and yielded identical pressor responses. Despite this, there was a sig greater HR response during LE which did not result in sig greater Q because of decreased stroke volume. The interpretation of these data is that while the pressor response to static exercise is a function of the % of MVC, as has been previously reported, the HR contribution to this pressor response is a function of the muscle mass involved.

690. BREITLOW, Dale H. An analysis of field goal shooting, rebounding, and team success with respect to various half-court basketball defenses. M. S. in Physical Education, 1979, 76 p. (J. Grove Wolf)

The purpose of this study was to determine the effect of man-to-man, zone, and combination basketball defenses on each of the following: field goal shooting, rebounding and team success. Comparisons were made in each of these areas to determine possible strengths, weaknesses and vulnerable areas for each type of half-court defense. Data were collected during the 1976-77 season of the Cambridge SHS boys varsity basketball team and its opponents covering 21 games. Statistics were kept for the time each team played in each defense plus the field goal and rebounding totals while in that defense. Statistics were analyzed in terms of percentages and total figures only, without further statistical test. Sig in each area is based on the comparison of means and is basically a value judgment based upon past experience. Findings of the study include: success for man-to-man over zone defenses occurred in 9 of 13 games; shooting % emerged as the highest indicator of success (85.7%), with rebounding next with 76.2%; opponent's shooting % was higher versus zone than man to man; range 1 resulted in a higher shooting % while the corners allowed the greatest number of shots; 79.9% of all rebounds were secured in range 1; man-to-man defense allowed the opponents a greater number of field goals in range 1 against a man-to-man defense than against a zone defense. Combination defenses were not played enough by either team to obtain any viable information.

691. BROOKS, Robert W. The effect of cold ambient conditions on body temperature regulation. M. S. in Physical Education, 1979, 68 p. (J. P. Mullin)
The effects of ambient temp on the body temp in cross country skiers was studied. There were 2 parts to the study: a field procedure and a cold chamber procedure. In the field, the skiers skied in ambient temp of -4°C, -13°C and -14°C for 90 min at 70% of their max VO_2. The rectal, skin, sublingual and finger temp were measured as the Ss skied. All the recorded temp declined from the onset of work, except the rectal which rose for approximately 40 min then declined. The conditions of the field procedure were simulated in the cold chamber. The Ss ran on a treadmill and worked the arms simultaneously to simulate the work of cross country skiing. They worked in both settings. In contrast to the field, the rectal temp rose to a steady state, showing no decline. M skin and mean body temp declined similar to the response in the field. There were no apparent direct effects of the ambient temp on the rectal temp. The skin and mean body temp showed a direct association to ambient temp.

692. BUHR, Beverly M. Evidence of exercise hemolysis in a study of hematological parameters of trained and untrained recreational runners. M. S. in Physical Education, 1980, 50 p. (J. P. Mullin)
2 groups of healthy male students at the UW-Madison were studied with respect to the occurrence of intravascular hemolysis as a result of recreational running. The "trained" group (n=8) had been running the equivalent of 12 mi/wk or more for at least 2 mon prior to the study. All Ss ran the

same 4 mi course around the UW-Madison campus on Monday, Wednesday and Friday for 2 wks. Blood and urine samples were collected weekly. Blood samples were analyzed for hematocrit hemolysis, reticulocyte index and haptoglobin. Urine samples were analyzed for hemosiderin and hemoglobin. A 2 factor repeated measures ANOVA was used to compare the differences between and within groups over time. Hematocrit values indicated there were no sig diff between or within groups. Within-group diff with respect to hemoglobin indicated a possible increasing trend. Based on the review of the literature,this trend cannot be explained, and it perhaps merits further study. There was evidence to support the hypothesis that the trained group would have lower levels of haptoglobin than the untrained group. The haptoglobin results indicated a decreasing trend over time. Post hoc comparison of means for the first and third sample was sig ($<.05$). Although reticulocyte values showed no sig changes between or within groups, 2 individuals in the trained group had elevated levels of reticulocytes during the study. There was quantitatively more hemosiderin found in the urine samples of the trained group than the untrained group,indicating chronic intravascular hemolysis. It was concluded that running under the exp conditions resulted in increased levels of intravascular hemolysis, but that this hemolysis did not result in lowering levels of hematocrit or hemoglobin values.

693. CARRIERE, Diane. A clarification of the concept of focus in the performing art of dance. Ph.D. in Dance. 1980. (M. A. Brennan)

The purpose of this study was to clarify the concept of focus in terms of its meanings, usages, overt bodily manifestations, and value as a means of communication in dance. To further clarify the concept of focus in dance, this study tested the hypotheses: an operational definition of inner focus and outer focus can be developed and illustrated in the context of a dance performance. The various meanings and usages attributed to focus in the psychology of attention, theatre and dance literature were described and analyzed. Working operational definitions of inner focus, outer focus and related concepts were formulated. A movement sequence was composed to demonstrate in overt action the variations of inner and outer focus. During 6 consecutive wks, interactions between the researcher, skilled dancers, a panel of dance authorities and a small audience were conducted to substantiate the hypothesis. Validation of the operational definitions entailed verification of 3 sub-hypotheses relating to perception of the skilled dancer, dance authorities and an audience. The hypotheses of the study were confirmed. A series of drawings were made to illustrate a movement sequence performed with inner and outer focus. Kappa statistics were used to measure the strength of the observers' inter- and intra- agreement in identifying the dance-performers' intended focus variation. In the context of dance performance, inner and outer focus variations have been operationally defined. The terms points of concentration, center of interest, eyes focus, line focus, and focus of the movement, often referred to as "focus" in dance literature, have been redefined. This study demonstrated that focus is a powerful means of projection, emphasis and expression in dance.

694. GIBBONS, Mark H. Estimation of body fat in middle-aged women using skinfolds and densitometry. M. S. in Nutritional Science/Physical Education, 1979, 41 p. (J. Mullin)

The body density of 34 middle-aged women (M age = 51.0 yrs ± 7.4 yrs) was determined by hydrostatic weighing (dependent variable) and 9 anthropometric measurements. The independent variables included age, ht, wt, waist girth, breast cup size, and 5 skinfolds. The M body density for this population was 1.026 g/ml (S.D. ± 0.016) and 32.5% body fat (S.D. ± 7.6%). The Siri formula was used to calculate % body fat. Residual volume was measured with a single breath, neon dilution technique. Multiple regression analysis was used to develop predictions of body density from the independent variables. The best combination of variables to predict body density was age, ht, and wt. The addition of skinfold measurements to the regression equation did not improve the prediction. The actual measures of body density in this study did not differ sig from those predicted from the Durnin equation (1974); however, there was a sig diff between the actual measures of body density and those predicted from the Pollock equation (1975). Clinicians must be mindful of the principle of specificity when choosing a predictive equation to estimate body fat in middle-aged women.

695. KAUFMAN, Thomas B. Maximal oxygen uptake in 8, 10, and 12 year old children. M. S. in Physical Education, 1980, (J. Mullin)

25 boys and 15 girls, aged 8 to 12 yrs, performed continuous progressive treadmill running. Expired gases were analyzed by the Beckman Metabolic Measurement Chart. Diff in relative and absolute VO_2 max and body wt were determined via two-way ANOVA. Sig diff in absolute VO_2 max were found across age groups ($p < .0001$). Chi square showed no diff in demonstration of an oxygen uptake plateau between age or sex groups. 42.5% of the Ss demonstrated an uptake plateau. 3 Ss were retested to determine the accuracy of initial measurements. Paired t-test showed no diff in VO_2 max from initial test to retest. M relative VO_2 max values of 49.5 ± 5.9 ml/kg x min and 47.4 ± 5.0 ml/kg x min were achieved by the boys and girls, respectively. It was concluded that relative VO_2 max levels of 8 to 12 yr old boys and girls were similar, that untrained children could produce substantial efforts during a treadmill run, regardless of the presence of oxygen uptake plateau.

696. McIVER, Mary Kathleen Carter. MFA dance project. MFA in Dance, 1980. (Anna R. Nassif)

A final MFA dance concert was held at the Wisconsin Union Theater. The choreographer presented "Maze", "The Human Voice", "The Journey" and also performed "Sea of Faith" by Anna R. Nassif. "Maze" was a dance which attempted to project human feelings in an abstract environment. The dance was performed by 4 dancers with only 3 shown at any given time. This allowed the choreographer to substitute one dancer for the other. It was intended to add an element of surprise to the choreography. The set design created an abstract environment for the dancers to move behind, in front, around and between. "The Human Voice" was a solo inspired by Jean Cocteau's play of the same name. It was a dramatic dance and the theme developed from 4 emotional states pertinent to the play. The dance was expressed from a woman's point of view. "The Journey" was based on the 'Boat People'. Human emotion was an essential element in scenario. It was necessary to convey the distress, hope and frustration of the Vietnamese people's experience.

697. LARISH, Douglas D. Response organization processes influencing the programming of rapid movements. Ph.D. in Physical Education, 1980. (G. E. Stelmach)

In recent years one of the principal objectives of response programming research has been to illuminate the underlying characteristics of motor program construction. To this end, Rosenbaum (in press) introduced a modification of the partial advance information paradigm (called the movement precuing technique) as another tool for examining the motoric decisions accompanying the construction process. By simply varying the type of movement parameters (i.e., arm, direction, extent) and the number of movement parameters (i.e., 0, 1, 2, 3) that are known prior to the onset of a "go" signal, reaction time serves as an index of the time to program the remaining unknown parameters. For example, in a precuing experiment reported by Rosenbaum the movement parameters of arm (A), direction (D), and extent (E) were manipulated, thus permitting 8 distinct responses and 8 distinct precue conditions. His results revealed that the programming time of arm was longest, direction was shorter, and extent was shortest. Further, Rosenbaum concluded that the programming of these three parameters was done serially, and arm and direction had to be programmed before extent. The starting point for the present investigation was the identification of a methodological confounding in the Rosenbaum experiment. The problem is not the partial advance information nature of the precuing technique, but rather the use of "go" stimuli that indirectly signalled a S's response: Rosenbaum used colors as reaction stimuli. The assertion was made that such a choice of stimuli introduced a non-motor, cognitive decision, referred to as stimulus-response translation (color code-to-position code), which inevitably contributed to the supposed estimate of programming time. Thus, Rosenbaum failed in his most fundamental purpose; to examine the construction of motor programs after non-motoric decisions have been made. Since previous research has shown that such translations are localized in a processing stage (response determination) not usually associated with response programming (response selection), Rosenbaum's findings are inextricably confounded between these 2 stages. Therefore, one is unable to determine if these findings reflect programming operations, translation operations, or both, and, as a consequence, the conclusions reached by Rosenbaum are tenuous. The present investigation sought to empirically substantiate this criticism by using the precuing technique in conjunction with the additive factor method. More specifically, it was deemed necessary to show that stimulus-response translations are localized in the response determination state, rather than the response selection state, and when a translation is required Rosenbaum's results would be replicated, but when a translation was unnecessary a different pattern of results would emerge. The movement parameters of direction and extent and the resulting 4 precue conditions were manipulated under 4 translation conditions: spatial-motor compatible, spatial-motor incompatible, spatial transformation, and incompatible-spatial transformation. In the first condition, there was a direct mapping between the stimuli and responses; therefore, the translation was considered to be minimal and it served as the control condition. The latter 3 conditions, however, did require some form of a translation. The exp hypotheses were tested using reaction time as a dependent measure, as well as empirical estimates of response selection time and response determination time.

698. LENSER, Michael C. A comparison of hemodynamic parameters in dynamic arm and leg exercise. M. S. in Physical Education, 1980. (F. J. Nagle)

699. LYN, Daria H. The effects of diet and chronic exercise on the resting metabolic rate of obese women. M. S. in Physical Education, 1980, 63 p. (F. J. Nagle)

11 obese women underwent a 6 wk period of diet restriction (800-1200 kcal.), followed by a 6 wk period of continued diet and 45 min of aerobic exercise (75% max HR), 4-7 times/wk. Resting metabolic rate (ml O_2/kg) (RMR) was measured twice weekly throughout the study. Girth measurements, serum lipid levels, and skinfold measurements were measured before, after the diet phase, and after the diet+exercise phase of the study. Fitness levels were also assessed at this time, using a submaximum bicycle ergometer test. The duration of the oxygen debt after 30 min of exercise to 80% max HR was determined by measuring metabolic rate pre-exercise, immediately post exercise, and 1 and 2 hrs post exercise. It was found that RMR decreased with diet restriction. Addition of exercise to the program did not change this decrease in RMR. Both girth and skinfold measurements were reduced with both diet and exercise. TG, HDL, and total serum cholestrol levels showed an initial decrease then an increase approaching baseline levels during the diet restriction. Fitness levels improved with exercise but not with diet alone. After 30 min of exercise to 80% max HR, resting VO_2 was elevated immediately post exercise, but returned to normal within one hour.

700. McCRACKEN, Hugh Dobbie. Programming direction extent and duration in aimed hand movements. Ph.D. in Physical Education, 1979. (G. E. Stelmach)
The purpose of this experiment was to assess the effects of the movement precues direction extent and duration upon the initiation time for simple timed hand movements. The basic experiment examined the effects of the 3 cues as programming factors in a paradigm varying advance information. Initiation and movement times were measured under conditions where no precue, 1, 2 or all 3 precues were known prior to the initiation of the act. The chronometric analysis confirmed predictions that initiation time, in general, was a function of the number precues. There were sig reductions in initiation times as the number precues increased. In the single precue conditions, duration produced sig faster initiation time than either extent or direction,which were equivalent. In the 2 precue conditions, the combined precue of extent and duration resulted in the fastest initiation time, the direction and duration precue initiation time was sig slower,and the direction and extent precue the slowest. The paradigm differed from previous work in that it involved temporally controlled,rather than maximally speeded,hand movements. In previous speeded work, the precue of arm produced shorter initiation times combined with direction than with extent. The reversal of this order, when combined with duration, suggests a flexible order of selection in programming spatial precues in which the control of movement speed produces a reversal in the selection order of direction and extent. Overall, the present result suggests direction may be selected in parallel with direction and extent being flexibly ordered according to the movement speed of the task and compatibilities among precue information sources.

701. MORGAN, Jonathan G. A lifetime sports-oriented program for high school physical education. M. S. in Physical Education, 1980, 140 p. (F. J. Nagle)
The purpose of this study was to develop a high school curriculum that emphasizes lifetime sports activities. A review of literature revealed a scarcity of information pertaining to this topic. The curriculum was divided into 4 cycles, one for each year of high school. Each cycle has 4 units comprised of these activities: running, badminton, swimming, baseball, basketball, tumbling, volleyball, soccer and a unit on exercise physiology. Supplementary material included optional activities, extra credit and

independent projects. Fitness tests and sample unit tests were provided in the appendixes. This paper was designed as a guide for teachers implementing a SHS PE curriculum that focuses on lifetime sports.

702. OLSON, John R. A comparison of the effect of competence based or traditional physical education curricular organization on the attitudes, fitness and failure of eleventh grade students. Ph.D. in Physical Education, 1980. (R. P. Maser)
The purpose of this study was to evaluate the effect of 2 different instructional organisation patterns on 2 attributes of student behavior and on student attitudes. Competence-based PE curricular organization is defined as a set of instructional procedures which are outgrowths of well-defined curricular objectives. These objectives are central to a constant evaluation process which allows for individualization of the curriculum in such a way that differing student abilities can be reflected through the use of a variety of appropriately challenging or remedial activities. Traditional PE curricular organization is defined as a set of instructional procedures which focus upon activity as a primary goal, and as a wholesome outlet for student energies. Recreation, rather than evaluation, is central to the implementation of a traditional curricular organization. 11th grade students were studied in 2 different high schools of highly similar socio-economic standards and values over a 7 mo period. The Wear Physical Education Attitudinal Inventory was utilized in both studies, and standard t-tests were applied to ascertain the sig of attitudinal changes during the study periods. Sig attitudinal improvements were shown for those students who received competence based instruction throughout the study period. In both studies there was no sig change in the attitudes of students who received traditional instruction. In addition to attitudinal comparisons, this study also evaluated the sig of changes in student fitness levels and failure rates for each instructional procedure. While no sig changes were measured for either school, the competence based program demonstrated fitness levels well above the norms for male and female 11th grade students as specified by the Kolpin-Schoessow (Nagle) fitness assessment although there appeared to be some evidence of decline during the study. Several implications for practice or further investigation are suggested on the basis of the study findings.

703. RUTA, Christopher G. The influence of varying combinations of arm and leg work on maximal oxygen uptake. M. S. in Physical Education, 1979. (J. Mullin)
The purpose of this study was to adapt an air-braked arm and leg ergometer to provide for measurement of the arm work as a fraction of the total work output. Strain gauges were mounted on the lower portion of each lever arm to measure the force created by the push-pull action of the arms. With this accomplished, metabolic and hemodynamic parameters were measured at submax and max workloads involving varying arm and leg work intensities (the arms contributing 15, 30 and 45 % of the total work output). Analysis of data indicated: the maximal oxygen uptake (VO_2), pulmonary ventilation, and HR were sig greater during max leg exercise than during max arm plus leg exercise,during which the arms contributed 30 and 45 % of total work; the blood lactate elevation didn't differ across the 4 work conditions; there were no diff at 4 max workloads (300-1200 kpm/min) among the 4 conditions when measuring VO_2, ventilation, HR, blood pressure and mechanical efficiency. However, trends suggested that as the arms contributed more to the total work intensity at submaximal workloads, the values for these variables increased.

704. SACHS, Jennifer. Accumulations, an MFA dance concert. MFA in Dance, 1980. (A. Nassif)
The goals of this project were twofold: to contribute 4 of the 8 works seen in "Accumulations", a concert at Memorial Union Theater; and acting as production coordinator for this concert. The first solo was "Six Little Dances", choreographed by UW resident choreographer Anna Nassif to Arnold Schoenberg's "Six Little Piano Pieces". "Accumulations" marked this dancer's 6th performance of the work. The 2nd solo presented was "L(eg)(ac)y Lady", choreographed and performed to the Aria, Variation 15, and Variation 16 of J. S. Bach's "Goldberg Variation". This piece revolves around the emotional reactions of a young women to a preestablished goal, represented by a strong high-diagonal focal point. One of the group works presented was a reconstruction of "Double-Edged Lens; or, So Who's Watching Whom?". In "Accumulations", the production of "Double Edged Lens" included fiber art set pieces by Candy Hafermann. The costumes (designed by Jennifer Sachs and Rae Rae) and lights were designed to create complementary color effects. Mr. Cooper designed the special effects for "Luminaries", a

new group piece premiered in "Accumulations". This new piece was a structured improvisation based on images and ideas of celestial bodies and forces. The special effects included cross-dissolving slides of galaxies and nebulae and the use of lasers. The role of production coordinator for "Accumulations" included organizing production meetings and meetings between the choreographers and faculty advisors; consulting with the Union Theater Management and arranging for the rental of the Union Theater; and coordinating load-ins and technical rehearsals with the technical director. A production book containing notes of the process of production and the outcome in areas such as scheduling, budget, publicity and lighting design is on file with the Dance Division. Also on file are a personal portfolio and a notebook containing an analysis of the choreography and roles performed in "Accumulations" along with a summary and evaluation of the project.

705. SEALS, Douglas. Maximal oxygen uptake in exercise involving variable muscle mass among well-trained upper body athletes. M. S. in Physical Education, 1980. (J. Mullin)

The purpose of this study was to determine the maximal oxygen consumption (VO_2 max) of well-trained upper-body (WTUB) athletes and untrained individuals in 4 different types of exercise: arm cranking (AC), legs only cycling (LC), graded treadmill running (TM), and combined arm cranking and leg cycling (A+L). The Ss included 12 rowers, 10 gymnasts, 11 swimmers, 10 wrestlers and 12 non-WTUB individuals. O_2 max was measured via an open circuit system. The results of this study indicate: WTUB athletes attain a sig ($p < .05$) higher VO_2 max in AC and A+L than non-WTUB individuals; diff among various WTUB groups in AC are reduced when VO_2 max is expressed in $ml \cdot kg^{-1}$, but may become manifest in A+L; WTUB athletes attain 80-95% of their LC VO_2 max in AC whereas non-WTUB individuals attain 60-70%; WTUB individuals attain 120-130% of their LC VO_2 max in A+L whereas non-WTUB individuals attain 110-115%; and non-WTUB individuals attain their highest VO_2 max in TM whereas WTUB athletes attain equivalent values in TM and A+L.

706. SPRAY, Judith A. Time series modeling of motor task responses. Ph.D. in Physical Education, 1980. (M. J. Safrit)

The purpose of this research was to determine the applicability of a general linear stochastic model of the form, $X = u(\phi) + Z\phi'$, to a series of repeated motor responses. The study consisted of two parts. First, by assuming that observations were generated by specific linear stochastic models, namely the first-order, stationary moving average model and the first-order stationary autoregressive model, data matrices of size $\underline{n}$ by $\underline{k}$, where $n = 10$, and $k = 100$, were obtained from computer simulation via a time series generator program. The effects of the resulting trial autocorrelation on one test characteristic, intraclass reliability, were studied at test lengths of $k = 100$, 50, 25 and 10 trials. New reliability estimators were derived to account for the systematic error components present within each response. The second phase of this study was to determine if actual motor responses collected from two motor behavior experiments regarding Adams' closed loop theory of motor learning did follow some linear stochastic model and under what conditions this occurred. The results showed that different models could be fit to these series of motor responses, depending upon the manipulation of the independent variable, knowledge of results (KR).

707. STRAITS, Sue Ann. The Alwin Nikolais artist-in-residence program at the University of Wisconsin-Madison: An ethnography of dance curriculum-in-use. Ph.D. in Dance, 1980. (M. W. Apple and M. A. Brennan)

Curriculum intentions, actions, and outcomes of the meeting between two distinct dance cultures and the impact of the Alwin Nikolais artist-in-residence program were studied. The qualitative research design developed for this study was a response to the lack of systematic approaches for reflecting upon the aesthetic, artistic nature of dance events. The design drew heavily upon anthropological and sociological work. Sources included: participation and observation in dance courses; tape recordings of teacher-student interaction; meetings planning residency activities; interviews with undergraduate and graduate students; personal interviews with Alwin Nikolais, company teachers, residency coordinators and UW dance faculty members; journal writings by students; photographs and films; and historical documents. Findings focused on two factors: the curricular impact of prior residency events and the quality of interchange between residency participants. Despite the original hope for a cultural exchange, curriculum decisions supported the traditional function of arts residencies--to pass on professional knowledge. At times, the Nikolais residency was viewed as an interference with, a supplement to, or an integrated part of the Wisconsin Dance Program. Study of the interplay between people, events and the environment showed that the accessibility of an artist increases the meaning of material. Students' motivation and commitment were shown to be influenced by varied factors, including the space they worked in, the technological assistance they received, and the quality of their personal contact with Nikolais and company dancers. For many students, the sig moments of the residency occurred outside the formal dance class, during informal conversations with company members or observations of company rehearsals.

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
BLACKSBURG, VA (M. L. Driscoll)

708. BEASLEY, J. L. Contemporary karate: An examination of the social relations and group configurations in a modern day adaptation of the ancient oriental martial art. Ed.D. Administration, 1979, 185 p. (G. A. Hayes)

This study identified and documented areas of interaction adapting gross conceptual framework to include the institutional system, the status and authority system, the REC career and the REC group participating in the activity. Data were collected on 32 Ss through the implementation of participant observation and interviewing. Content analysis was utilized in obtaining the data concerning the institutional system and identification with the activity. A questionnaire was employed to collect data concerning the status and authority system, the REC center, and the REC group. It was concluded that: the status systems in both traditional and contemporary karate are strikingly similar; the primary diff in the styles centers around physical skills and not the social relations and group configurations; and by developing a new style, Americans gained control of the production of new karate schools and the methods in which the skills would be taught.

709. CHAPMAN, J. W. An investigation of motor impairment in juvenile delinquents. M. S. in Physical Education, 1980, 116 p. (R. K. Stratton)

The study investigated the validity of the TMI when used with juvenile delinquents. Ss (n=34) were 13-14 yrs of age. 17 incarcerated deliquent males served as the exp. group and 17 non-deliquent males served as the control group. t tests for non-independent samples were computed between group motor impairment scores and between groups' M scores over 40 trials. A Spearman rho was calculated between the Ss' behavioral ranks and the ranks of their TMI performances. The non-delinquents demonstrated more coordinated performance than did their delinquent counterparts. The study failed to show that TMI performance was related to behavioral maladjustment within the control group. The TMI discriminated between the delinquent and non-delinquent groups.

710. FUTTEN, D. L. Effects of a supplementary perceptual motor program on trainable mentally retarded children. Ed.D. Curriculum and Instruction, 1980, 203 p. (R. K. Stratton - G. A. Hayes)

This investigation assessed the effects of a supplementary perceptual-motor program (PMP) on the level of PM development, self-concept, social-emotional growth, and academic achievement of 46 TMR children, CAs 6-12. All Ss possessed IQs of 49 or below, with MAs ranging from 3-7 yrs. Ss were randomly assigned into an exp group (n=23) and a control group (n=23). Both groups received the same PE and special education program. The exp group was exposed to a supplementary PMP 30 min/day, 5 days/wk for 20 wks. All Ss were pre and post-tested on 7 dependent variables (dynamic balance, eye-hand coordination, shape and figure-ground discrimination, body image, self-concept, social emotional growth, and academic achievement). A 2X2 MANOVA with repeated measures on the second factor was used to analyze the data. When all 7 dependent variables were analyzed simultaneously, the MANOVA showed a sig test effect and a sig test X group interactions.

711. HARDISON, J. B. The status of physical education programs for the handicapped in the public school of Tennessee. Ed.D. in Educational Administration, 1980, 102 p. (R. K. Stratton)

This study investigated the types of programs, time allotted for PE, facilities, activities, testing and evaluation, curriculum guides, professional and inservice preparation of teachers of PE programs for the handicapped. The principals from a stratified random sample of ELE (n=291), JHS (n=155) and SHS (n=210) were sent questionnaires. A 71% or better response was received from each of the 3 principal groups. The results indicated that most schools integrated handicapped with other students for PE. Less than 15% of the schools provided adapted PE for the handicapped. The ELE schools used less testing for screening the handicapped, and 63% of all schools reported the use of teacher observation of health signs as a means of evaluating a student's strengths and weaknesses. More than 95% of the SHS PE teachers were state certified while 57.1% of ELE PE teachers were state certified. Less than 35% of PE teachers had received in-service training and more than 85% indicated a desire for in-service training in one or more of the handicapping conditions.

712. PIERCE, W. J. Psychological perspectives of youth sport participants and non-participants. Ed.D. in Curriculum and Instruction, 1980, 120 p. (R. K. Stratton)

This investigation examined where individuals were introduced to sport, the source and effects of stress on the participant and the importance of individual awards. Ss were 436 students (205 F, 231 M) from grades 6-12 and 106 (38F, 68M) sport participants from agency-sponsored programs. Two questionnaires, a SPQ and the SCAT, were administered to all Ss. The agency and school forms of the SPQ were analyzed separately. The questionnaires were analyzed by sport for each sport which had 45 or more respondents. Inspection of the variable frequencies, the interrelationship of variables, the factor analysis of selected variables, and, in cases, cluster analysis on selected variables, were used to reduce the data to a smaller set of variables to explain sport participation or non-participation. The results indicated clearly that sport participation was quite popular among all school respondents. A large majority of participants and non-participants indicated that they would like to be sports participants. The primary source of stress was a concern with skills for sport participants. Sport participants, former participants, and non-participants all indicated a fear of poor individual performance as their greatest source of stress. The stress sources showed little variation across sports and among participants, non-participants, and former participants.

713. ROBERTSON, M. K. An assessment of the effects of a college aid program on selected motor skills of second and fifth graders. Ed.D. Curriculum and Instruction, 1980, 104 p. (M. L. Driscoll)

This study investigated motor skills of children in classes with college aids and children in classes without college aids. The skills included throwing, catching, kicking and striking. The study was conducted over a 14-wk period. Ss (n=449) were pre-tested using an adapted form of the Ohio State University Scale of Intra-Gross Motor Assessment. A 10-wk instructional period was provided for the exp group utilizing the aids. The control group experienced their regular instructional period. All Ss were post-tested at the completion of the instructional period. A 2-way factorial MANOVA was applied in order to determine sig diff in motor skill with respect to exp versus control group. The results indicated that the classes of students with college aids scored sig higher on the motor skills of catching, kicking and striking, while there was no sig diff on the skill of throwing.

714. TEGANO, C. J. How faculty representatives perceive intercollegiate athletics. Ed.D. in Educational Administration. 1980, 105 p. (R. K. Stratton)
The study examined the role of intercollegiate athletics, funding of intercollegiate athletics, recruitment of athletes and governance of intercollegiate athletics. A questionnaire was sent to all faculty representatives at all NCAA Division IA Institutions in the U. S. The return was 69% (n=95). It was concluded that the faculty representative should have a more active leadership role in assisting the president on matters related to the governance of athletics. The representatives viewed intercollegiate athletics as an integral part of higher education and that their respective universities encouraged an athlete to pursue his academic work.

WASHINGTON STATE UNIVERSITY (M. L. Enberg)
PULLMAN, WA

715. AHLIN, S. M. A model for sports information director training. M. S. in Physical Education, 1980, 75 p. (K. Penman)

716. BALE, D. B. Relative leg power using three different priced training apparatus. M. S. in Physical Education, 1980, 54 p. (K. Penman)

717. BEAUREGARD, M. Calcium uptake in trained and exhausted animals. Ph.D. in Physical Education, 1980, 59 p. (P. D. Gollnick)

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719. BUNTING, S. R. An investigation of present health care practices for interscholastic athletics in Washington schools. M. S. in Physical Education, 1980, 57 p. (D. Sebold)

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726. GHORMLEY, D. D. A study of legal practices in selected NCAA Division I athletic programs. M. S. in Physical Education, 1980, 72 p. (R. C. Wiley)

727. HAIGHT, L. E. A leisure literacy model for physical education. M. S. in Physical Education, 1979, 90 p. (W. Harrington)

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738. PARK, M. W. The effect of endurance training on the calcium uptake by fragmented sarcoplasmic reticulum of rat heart and skeletal muscle. Ph.D. in Physical Education, 1980, 58 p. (P. D. Gollnick)

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740. RE[illegible]SS, R. W. A study to determine the feasibility of a cardiac rehabilitation program for the communities of Moscow, Pullman and surrounding area. M. S. in Physical Education, 1979, 40 p. (D. King)

741. SANDISON, M. J. Implementation of Title IX in the secondary school physical education program in a local district. M.A.T. in Physical Education, 1979, 44 p. (G. M. Hulac)

742. SCHLEIFFERS, S. M. Competitive state-anxiety and experience related to performance of women intercollegiate track and field athletes. M. S. in Physical Education, 1979, 93 p. (M. L. Enberg)

743. SECOR, M. R. A supplemental learning aid for the instruction of basketball officiating hand signals. M. S. in Physical Education, 1979, 26 p. (R. H. Doornink)

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747. THAYER, A. L. A mechanical analysis of two methods of twisting in a forward somersault with one twist. M. S. in Physical Education, 1980, 90 p. (M. Adrian)

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750. WIRTH, A. E. Developing instrumentation for hammer throw data collection. M. S. in Physical Education, 1980, 79 p. (M. Adrian)

WESTERN ILLINOIS UNIVERSITY (R. Aten - R. Gedney)
MACOMB, IL

751. BEULER, E. S. The effects of confinement on physiological and psychological responses to a submaximal exercise task. M. S. in Physical Education, 1980, 84 p. (C. J. Cohen)

15 female Ss completed a submaximal treadmill exercise task under 2 conditions: after a period of automobile confinement, and without that period of confinement. During the treadmill exercise,HR and RPE (rating of perceived exertion) were taken and recorded every minute until the exercise HR reached a pre-determined age-adjusted end point. ANOVA with repeated measures design was used to analyze the data. No sig diff were noted between the 2 testing conditions for: treadmill run time, pre-exercise HR, and differential scores for 3 specified intervals. The results indicated that periods of automobile confinement did not sig alter HR and RPE of female Ss when compared to a non-confinement condition. Automobile confinement did not, therefore, influence the physiological or psychological response to a submaximal exercise task.

752. CAMPBELL, Hal L. Effect of length of training on physiological response to a submaximal work task in two environmental conditions. M. S. in Physical Education, 1980, 101 p. (C. Cohen)

50 Ss were assigned to 1 of 5 groups (5 males and 5 females to each) to determine whether training for a brief period of time in a hot, humid environment (90°F, 80% humidity) would elicit different physiological responses to a submaximal work when compared to training for a longer period in a temperate environment (72°F, 30% rel. humidity). Comparisons were also made by sexes and pre and post test scores. The dependent variables were HR, core temperature and skin temperature. One group trained for 10 consecutive days in a hot, humid environment. Another group trained for 20 consecutive days in a temperate environment; and a third group served as a control. A 3 x 2 x 2 ANOVA with repeated measures was used to analyze the data (groups x sex x prepost). Training in a 90°F 80% humidity resulted in a more effective physiological response to work in a hot, humid environment, but training in a temperate environment for twice the no. of days did partially reduce the strain of 90°F 80% humidity. Heat stress resulted in greater stress for females than males.

753. CARLETON, C. M. Internal-external control of reinforcement between intercollegiate female softball players: Grant-in-aid recipients versus non-recipients. M. S. in Physical Education, 1980, 38 p. (K. Pearson and B. Yeager)

Female softball players competing in the 1978 IL Association of Intercollegiate Athletics for Women Large College State Softball Tournament were Ss in this study. 41 softball players receiving grant-in-aid monies were compared with 81 softball players receiving no grant-in-aid monies. Scores obtained in Rotter's Internal-External Control Scale were collected for this study. A fixed one-way ANOVA was used to determine if diff existed between the 2 groups in their expectancies for internal versus external control of reinforcement. No sig diff in the perceived locus of control between the 2 groups was evident, therefore no diff in expectancy to control reinforcement existed between the 2 groups of intercollegiate female softball players.

754. DAVIDSON, D. C. An instructional softball film for the fastball pitch with windmill delivery. M. S.

in Physical Education, 1980, 54 p. (A. L. Lamb)
A film was produced for coaches, teachers, and students that would improve their understanding of pitching a softball. A qualified pitcher was selected to demonstrate the fastball pitch with windmill delivery. All camera work was carried out by a qualified film crew, using 2 Bell and Howell D70 cameras. The resultant film was transferred to 3/4" videotape for final editing and the addition of verbal cues. The review of literature revealed 4 critical phases of the pitching motion from the mechanical analysis of pitching: preparatory stance and presentation, windup (upswing and downward whip), release and follow-through. These 4 phases were emphasized by superimposing verbal cues over selected segments of the film. The film was designed to emphasize the critical phases of the pitching motion with verbal cues.

755. DORIA, Richard Paul, Jr. A brief history of the American Olympic decathlon gold medalists - traits and characteristics: 1912-1976. M. S. in Physical Education, 1980, 112 p. (G. Hermann)
9 Olympic decathlon champions representing U. S. were Ss. Library research was conducted to examine their lives in order to identify common characteristics among the Ss. In addition, the 3 living decathletes were surveyed concerning specific traits and characteristics. The backgrounds of the deceased decathletes were compiled from information provided by close friends and relatives. A brief biography was written for each American decathlon champion from 1912-1976. It was concluded that the common characteristics identified and shared by the Ss did not fully explain the Olympic domination by American athletes.

756. HAKES, Joseph L. Organization and administration of men's intercollegiate athletic programs in the Christian College Consortium. M. S. in Physical Education, 1980, 53 p. (J. Colgate)
During the 1979-80 academic year, presidents, ADs, head men's basketball coaches, and head men's soccer coaches at member institutions of the Christian College Consortium were surveyed to analyze the organization and administration of the men's intercollegiate athletic programs. All respondents indicated that the all-around development of students was given maximum consideration in the organization of the programs. However, the relative importance of various values of the programs differed between administrators

and coaches. Soccer coaches were found to have greater teaching loads and longer terms of service than basketball coaches. ADs and coaches had responsibilites and assignments in addition to directing and coaching. Usually financing of the programs came from the general budget, and publicity was handled on a part-time basis at all of the schools. The survey also provided information concerning the programs that would be useful in a comparison of programs or in providing insight into the philosophical positions and actual operation of the men's athletic programs in the Consortium.

757. McLEMORE, S. J. A study of job satisfaction among female intercollegiate athletic directors. M. S. in Physical Education, 1980, 78 p. (B. Yeager)
Job satisfaction of female intercollegiate ADs was assessed and the selected demographic factors which might have contributed to job satisfaction were examined. Demographic factors included: level of education, tenure, area of specialization, an assistant, written job description, % of time in administration, organizational structure, years of experience on the present job, AIAW sport division, size of coaching staff, consistency of personal and institutional goals, goals clearly stated, and age. The Ss were 100 female intercollegiate athletes randomly selected from across the U. S.; 68% responded. The Job Descriptive Index was used to assess job satisfaction; a questionnaire collected additional demographic data. Data for the first 6 items on the JDI scale were tested using the Mann-Whitney U statistical technique; M and SD for all JDI scales were calculated, and descriptive analysis was used to examine other demographic data. Results indicated no sig diff between the total JDI scale and the various demographic factors. Descriptive analysis revealed few diffs. It was concluded that only a few of the external demographic factors might have had a minimal effect on job satisfaction.

758. NIENHUIS, N. E. Volitional control of heart rate during treadmill walking. M. S. in Physical Education, 1980, 93 p. (C. J. Cohen)
The study sought to determine whether Ss could maintain volitional control of HR during a state anxiety stress situation once bidirectional HR control had been achieved while exercising on a treadmill. Ss were 11 females aged 18-22 yrs. All Ss were given 2 adaptation sessions followed by 10 HR control training sessions and 1 anxiety testing

session. All testing was done on a treadmill; a cardiotachometer was utilized to display Ss' digital HR. Collected data were the average number of bpm Ss were able to raise or lower their HR from the baseline rate during all testing sessions. ANOVA with repeated measures design was used to analyze the data. In addition, trend analysis was utilized to analyze all sig F-ratios obtained. Results indicated no sig learning effect for either ability to raise or lower HR across all 10 testing sessions. During session 11, when state anxiety stress was added to the exercise stress, Ss' ability to lower HR sig improved. Based on the findings of this study, it was suggested that ability to control HR is innate; however, improvement in this ability may be achieved under certain incentive conditions.

759. SMITH, Gary B. Effect of Title IX on women's athletics in selected NCAA Division I colleges and universities. M. S. in Physical Education, 1980, 62 p. (B. Rolloff)

100 selected ADs in charge of women's athletics were surveyed as to factors that affect;the administration of women's athletics; the status of women's athletics in NCAA Division I institutions prior to the passage of Title IX, the interim from 1972 and 1975, and since the implementation of Title IX regulations July 1975; and the effect of Title IX on certain aspects of women's programs. Of the 100 questionnaires sent, 59 were returned (59%). The major findings of the study were: most of the Ss indicated that one person was given full time responsibility for administering women's athletics; the most important impetus for change in women's athletic programs was Title IX; the total number of sports offered for women increased substantially since the passage of Title IX; the number of full-time coaches for women's athletics increased substantially with the passage of Title IX; and adequate finances was the greatest problem with Title IX regulations.

760. VACALA, M. The development and comparison of strength ratios and ankle range of motion to shin splints in selected college female athletes. M. S. in Physical Education, 1980, 78 p. (J. Robertson)

A M strength ratio was computed between ankle plantar and dorsal flexion and comparisons were made with regard to ankle joint range of motion between Ss with and without shin splints. Ss were female intercollegiate athletes who participated in one or more of the following sports: cross-country, field hockey, volleyball, basketball, tennis, track and field, softball and badminton. Data were collected by means of a cable tension strength test, a goniometer measurement of joint range of motion and a demographic data questionnaire. The study revealed that the M strength ratio of both groups tested was approximately a 5 to 1 ratio, plantar over dorsal flexors. The result of this study did not reveal a sig diff between groups in strength ratios or ankle joint range of motion. It was interesting, however, to note that the demographic data indicated that athletes experiencing shin splints reported a greater % of injuries than those without skin splints.

WEST VIRGINIA UNIVERSITY (A. C. Ostrow)
MORGANTOWN, WV

761. CASCIANI, Jerome. Developmental relationships between logical or operational schemes, motor schemes, and scheme coordinating ability. Ed.D. in Physical Education, 1980, 92 p. (R. Wiegand)

762. DOUGLAS, Stephen. An analysis of selected factors influencing sports media in the state of West Virginia. M. S. in Physical Education, 1979, 45 p. (R. Wiegand)

763. KUTLER, Kenneth K. An analysis of financial aid policies for student athletics in NCAA Division III institutions. Ed.D. in Physical Education, 1980, 131 p. (W. Alsop)

764. RAMELLA, Reno. The processing of various combinations of knowledge of results. Ed.D. in Physical Education, 1980, 60 p. (R. Wiegand)

765. ROSENBERG, Beth S. Construction of a submaximal cardiovascular step test for females utilizing a variable height step bench. M. S. in Physical Education, 1980, 99 p. (R. Yeater)

766. SISSON, Kenneth O. Frank D. Sills: His impact on East Stroudsburg State College. Ed.D. in Physical Education, 1980, 346 p. (J. Douglas)

767. SPIKER, David D. The interaction theory of anxiety: A competitive golf assessment. M. S. in Physical Education, 1979, 50 p. (A. Ostrow)

768. TANCRED, William Raymond. An assessment of management policies and procedures of sports centers in England. Ed.D. in Physical Education, 1980, 158 p. (J. Douglas)

769. TAYLOR, L. Richard. Validity of predicting the maximal oxygen uptake of young females using selected submaximal estimators. Ed.D. in Physical Education, 1980, 104 p. (R. Kurucz)

PERIODICALS REVIEWED

* Acta Chirurgica Scandinavica
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* These periodicals have research reports listed in the Bibliography (Part II).

British Heart Journal
British Journal of Industrial Medicine
* British Journal of Nutrition
British Journal of Preventative and Social Medicine
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* British Journal of Psychology
* British Medical Bulletin
* British Medical Journal
Bulletin of the Los Angeles Neurological Society

California Journal of Educational Research
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